THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

Vol. CLV SEPTEMBER 16 1938 No. 4989

MECKLENBURGH-SQUARE, W.C.

This view of Mecklenburgh-square, most charming of Bloomsbury backwaters, was photographed by Barnet Saidman, and is shown by the "News Chronicle" at the Exhibition of Photography in Commerce and Industry at Princes Galleries, W.1.

MEETINGS

Friday, September 16.
London Society. Visit to A. R. P. Depot, 56, Warwick-gardens, W.14, and the Royal Geographical Society's Headquarters in Kensington Gore. 2.45 p.m.

Friday-Saturday, September 16-October 1
Building Exhibition. 21st biennial exhibition. At Olympia. Opening by Sir Philip Sassoon, First Commissioner of Works, on Friday, September 16. 4 p.m.

Monday, September 19.
London Society. Visit to the New Warner Picture House, Daly's Theatre Site, Leicester-square. 2.30 p.m.

Thursday-Saturday, September 22-24.
Institute of Housing. Sixth Annual General Meeting and Conference. At Norwich.

Friday, September 23.
Building Exhibition, Olympia. Ball in aid of the Architects' Benevolent Society. 7. 30 p.m.

Saturday, September 24.
London Society. Visit to the Dickens House, 48, Doughty-street, W.C.1. 3 p.m.
The Institution of Municipal and County Engineers. Institution meeting. Royal Pavilion Hotel, Folkestone. 10.30 a.m.

Monday, September 26.
Building and Allied Trades Golfing Association. Autumn Meeting. At Wentworth Club, Virginia Water.

Wednesday, September 28.
Ecclesiological Society. Mr. A. Gardner on "French Romanesque Churches," 6, Queen-square, W.C.1. 8 p.m.

Wednesday and Thursday, September 28 and 29.
Central Council for Health Education. Eleventh Annual Health Education Conference, Glasgow.

Thursday-Saturday, September 29-October 1.
National Smoke Abatement Society. Annual Conference, Cardiff.

Thursday-Sunday, September 29-October 2.
Design and Industries Association. Second week-end Conference. Spa Plaza Hotel, Buxton.

Friday, September 30.
Architects' Registration Council. Council Meeting. 66, Portland-place, W.1.

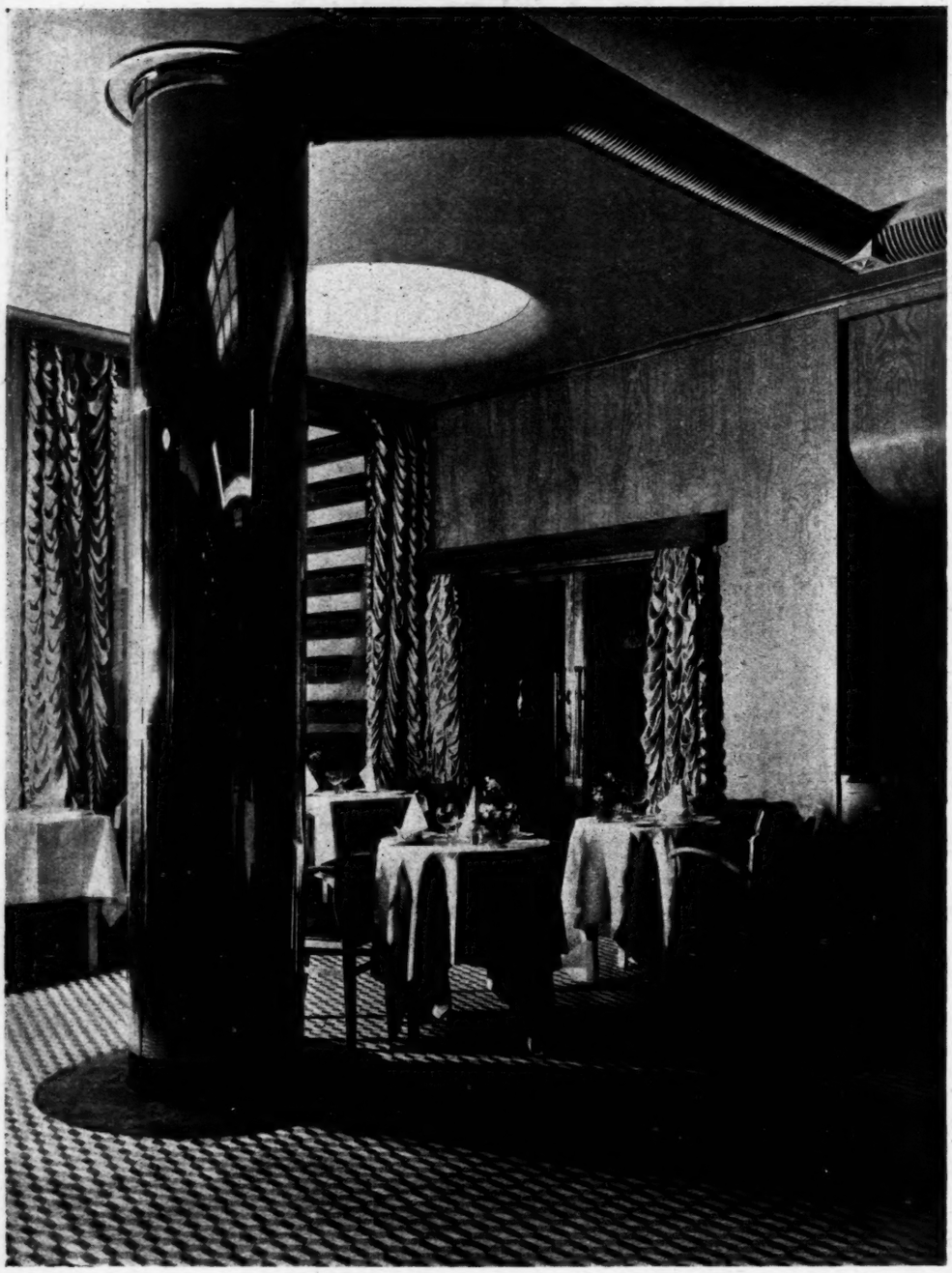
Friday-Sunday, September 30-October 2.
Town Planning Institute. Twentieth Annual Country Meeting Queen's Hotel, Leeds. Friday: Meeting at the City Museum, Park Row; welcome by the Lord Mayor of Leeds, Alderman John Badlay, J.P.; Mr. J. E. Acfield on "Planning in Leeds," and Mr. R. A. H. Livett on "Housing in Leeds," 3 p.m. Reception at the Civic Hall, 8 p.m. Saturday: Motor coaches leave Queen's Hotel for visit to roads and places of Town Planning interest, 10 a.m.; Luncheon at the Mansion, Roundhay Park, 1 p.m.; Motor coaches visit to housing estates and Quarry Hill Flats, 2.30 p.m.; Institute Dinner, Queen's Hotel, 7.30 p.m. Sunday: Motor coaches for various visits. 10 a.m.

Sunday-Saturday, October 2-8.
Royal Sanitary Institute. Health Week Celebration.

Wednesday-Thursday, October 5 and 6.
Coal Utilisation Council. Fourth National Coal Convention. Opening ceremony on Wednesday by the Rt. Hon. Oliver Stanley, President of the Board of Trade. Grosvenor House, Park-lane, W.1. 11 a.m.

Saturday, October 8.
London Trades Council. Professor J. B. S. Haldane and Mr. T. E. Scott, F.R.I.B.A., on "A.R.P. in its relation to the Civil Population of London." Memorial Hall, Farringdon-road, E.C. 2.30.

Tuesday, October 11.
Plumbing Trades' National Apprenticeship Council. General Meeting. Institute of Plumbers, 81, Gower-street, W.C.1. 10.30 a.m.



RESTAURANT CORNER, DOLPHIN-SQUARE, S.W.

This view of the Restaurant, Dolphin-square, S.W.—designed by Messrs. Gordon Jeeves and built by Messrs. R. Costain & Sons—is one of a number of photographs shown at the Exhibition of Photography in Commerce by S. W. Newbery. The Exhibition was noticed in our last issue.

TOPICS OF THE DAY

CONSTRUCTION OF BUILDINGS IN LONDON.

AS is of course now well known, new London County Council Building By-laws came into operation on January 1, 1938, and superseded many of the more rigid requirements of the London Building Act of 1930, and the by-laws made under earlier Acts, as well as the regulations for reinforced concrete and the Code of Practice for the use of structural steel. The London County Council has now issued a book under the title "Construction of Buildings in London" (P. S. King and Son, Ltd., 5s.) which reproduces in one volume and in compact form those requirements of the law which relate directly to the materials and methods of building construction, as distinct from such matters as width of streets, open spaces, means of escape from fire, etc. The general scope of the new by-laws was briefly outlined in our issue of 17.12.'37, and they are the subject of the very comprehensive review, from the pens of Mr. Alfred H. Barnes, F.R.I.B.A., and Mr. C. Roland Woods, LL.B., which is now appearing in *The Builder* each week. It is unnecessary, therefore, to refer to them in any detail.

The by-laws were framed with the intention that their requirements should constitute a minimum consistent with proper regard for the public safety. Such requirements are in respect of broad principles only, and leave freedom for operative ways and means of complying with them. Scope is thus afforded for progressive development in the use of new materials and methods of construction. The by-laws will be reviewed by the Council after three years in the light of experience gained in their working, and the collaboration of all interests concerned is invited so that they may then be amended, if necessary, and become still more serviceable.

The special value of the book lies in the fact that in it there are now collected together in one volume the several publications which are referred to in, or are incidental to, the building by-laws. Reference is made in the by-laws, for example, to more than twenty British Standard Specifications, and the pertinent sections of each of those specifications are included in the present volume. In addition it contains the Superintending Architect's Memorandum on the computation of stresses in the construction of buildings, which applies more especially to the design of reinforced concrete buildings and the regulations which have been made by the Council relating to applications for modifications of the by-laws in respect of welding and of the use of special steel reinforcement for reinforced concrete.

The first section is a reprint of the "by-laws for the construction and conversion of buildings and furnace chimney shafts," to which have been added marginal titles which greatly facilitate reference. This is followed by the Council's regulations relating to applications for modifications or waivers of certain of the by-laws so as to permit the use of steel reinforcement for reinforced concrete other than that required and provided for in the by-laws. These set out the nature of the information which is required by the Council in considering applications for permission to use reinforcement other than B.S.S. 15-1936, and indicate the stresses which may be allowed. Then follows similar information relating to applications for waiver to permit the use of welding in structural steel and reinforced concrete.

The Memorandum on the computation of stresses in the construction of buildings and chimney shafts relates almost wholly to reinforced concrete construction, and includes the pertinent parts of the recommendations for a Code of Practice prepared by the Reinforced Concrete Structures Committee of the Department of Scientific and Industrial Research, which are not made mandatory by the by-laws. It sets out certain methods of design for reinforced concrete which, if adopted, will be deemed to meet the requirements of the by-laws, but the Memorandum is not mandatory, and other methods may be used, provided the by-law stresses are not exceeded. Those of the by-laws which relate to reinforced concrete, taken in conjunction with the Memorandum, represent a thorough and practical revision of the Recommendations of the D.S.I.R., and form a Code of Practice for reinforced concrete which may well find application in the provinces.

The by-laws relating to the use of timber in the construction of buildings are reprinted, with a brief Memorandum on the use of non-graded timber, and a set of extracts from the London Building Act, 1930, relating to methods of construction in buildings, completes the first half of the book.

The second half is occupied by extracts from the British Standard Specifications referred to in the by-laws, and it terminates with valuable indexes to the building by-laws and the timber by-laws.

The book forms a concise and useful guide to the requirements of the London County Council in the matter of building regulations, and should find a place on the shelf of every architect, surveyor and builder who may be called upon to carry out work in London.

MODERN TIMES.

THE title of a book of general historical record, "Modern Times from 1714 to the Present Day," suggests food for thought.

We have grown so used to speed in thought as well as action that the word "modern" has become limited to the period of a few years in our own recent lifetimes. It is a healthy reflection that an historian, bound to the calm contemplation which his calling imposes upon him, should relate this same word to several centuries during which superficial changes have been many; and that the bird's-eye view which he has taken of recent history should embrace a very wide angle of vision.

To those who have studied their English history, the period chosen will certainly stand for one in which the thoughts, customs and aspirations of the nation began, and continued, to take the shape of things as we know them to-day, and as one between which and the Dark Ages of mediævalism there is a fairly distinct and relatively abrupt cleavage.

We venture to think that we should gain much if we could establish a habit of thought along these lines, and that a good deal of the misunderstanding and irritation between contemporaries would disappear with a broader outlook. We should be less inclined to regard everything that is not quite "up to date" as antiquated and useless, and at the same time more inclined to regard last-minute efficiency as part of the same civilising process which has been the keynote of the period this historian has called "Modern."

There would be, in fact, a great forward impetus if we could find a way of putting in their proper places in one coherent scheme of development the clean efficiencies of post-war England, with the solid civilising qualities which grew up out of our own development of the Renaissance.

We need a great measure of toleration in some respects and a greater insistence upon rock-bottom principles in others. Above all, we need a renewed understanding between youth and middle age, which seem just now to be so much at "sixes and seventies."

NOTES AND NEWS

The Building Exhibition : R.I.B.A. Arrangements.

In connection with the Building Exhibition, which opens at 4 p.m. to-day (Friday) at Olympia, an R.I.B.A. Room is being provided within the Exhibition for the use of members of the R.I.B.A. Members of Allied and Associated Societies, the Architecture Club and the Building Industries National Council are also invited to make use of it. The room is situated over the Addison-road entrance, and can be approached either from the entrance hall or the gallery. Visitors may obtain light refreshments, use the telephone, and messages may be left there for them.

A note in the R.I.B.A. *Journal* states that it has been customary for many years past for the Secretary of the Institute to send an invitation to members to attend the biennial exhibitions at Olympia. Through the kindness of the organiser of the exhibition, Mr. H. Greville Montgomery, Hon.A.R.I.B.A., each ticket presented will ensure the payment of 2s. as a contribution to the Architects' Benevolent Society.

* * *

A New Royal Train : An Architect Appointed.

Mr. Brian O'Rorke, A.R.I.B.A., is named as the architect responsible for the decoration of the new Royal train, for which plans have been prepared by the London, Midland and Scottish Railway Company. The present L.M.S. Royal train has been in use for 35 years, and has been remodelled from time to time. It is now felt that more up-to-date rolling stock should be provided, with modern decoration and equipment.

R.I.B.A. New Session : List of Papers to be Read.

The new session of the Royal Institute of British Architects, which will shortly open, promises to be an interesting one in so far as the sessional papers are concerned. The Presidential Address will be given by Mr. H. S. Goodhart-Rendel on November 7, and the following contributions are subsequently promised :—

November 21.—"The Economics of the Building Industry : Achievements and Anomalies." By Mr. Oliver Roskill.

December 5.—"The Next Twenty Years." by Professor W. G. Holford.

January 9.—Criticism of Students' Designs. By Mr. Howard Robertson.

January 23.—Annual Prize Distribution and President's Address to Students.

February 6.—"Some Legal Aspects of an Architect's Practice." By Capt. Sydney Redfern.

February 20.—"The Great Landowners' Contribution to the Architecture of London." By Mr. John Summerson.

March 6.—"Recent Architecture in the Provinces." By Mr. W. T. Benslyn.

April 24.—"Railway Stations." By Professor A. E. Richardson, A.R.A.

* * *

Preservation of "Crook o' Lune," Lancashire.

At a meeting held at Hornby, Lunesdale Rural District Council took an important step toward the perpetual preservation for the nation of the Crook o' Lune, the well-known beauty spot between Halton and Caton. After hearing the views of a delegation from the Regional Planning Committee and the Council for the Preservation of Rural England, the Council rejected by ten votes to nine proposals to erect eight houses on land adjoining the River Lune at the famous "Crook."

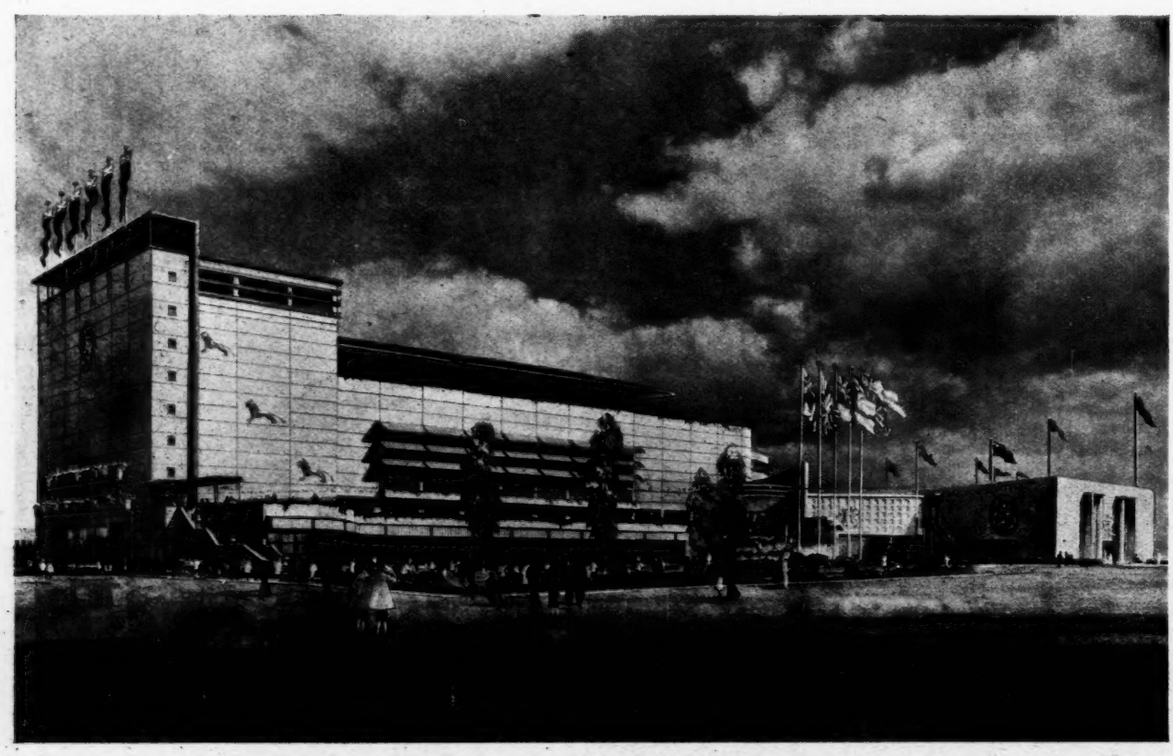
Mr. J. G. E. Clark, chairman of the Lancaster and District Regional Planning Committee, said the committee had been considering the Crook o' Lune for at least nine years. The area which it was desired to develop consisted of eight and a half acres, and the estimated value was £2,000, but before that amount was definitely decided upon the Ministry of Health would require a land valuer to value it, and in all probability it would be less than that sum. The Lancashire County Council were willing to contribute 25 per cent. to the total cost of buying the land, declared Mr. Clark, who said he would do all in his power to persuade the Lancaster City Council to make some contribution. In addition landowners adjoining had agreed to contribute £900.

* * *

South Kensington Museum Area : Commission's Report.

The second report of the Standing Commission on Museums and Galleries outlines plans for the redevelopment of the "South Kensington Site." On broad lines, the plan provides for teaching institutions to be concentrated north of Imperial Institute-road, and would make Exhibition-road the dividing line between the artistic and scientific collections housed in South Kensington. For the new building of the Royal College of Art, the vacant site west of the Royal College of Music is contemplated, and an expansion in due course of the Science Museum will be made possible by the eventual evacuation of the Imperial College of Science buildings on the south side of Imperial Institute-road. This, in turn, will enable the site, originally earmarked by the Bell Committee in 1911-1912 for the expansion of the Science Museum, on the west of the Museum facing Queen's-gate, to be utilised for the new Museum of Ethnography.

The Commission considers that the second, third and fourth quadrants of the British Museum "Iron Library" should be constructed as one continuous operation. Second in point of urgency is the



DESIGN FOR BRITISH PAVILION, NEW YORK WORLD'S FAIR.

This perspective shows the approved design for the British Pavilion at this Fair, which will open in New York next year. The architects are MESSRS. HOWARD ROBERTSON, F.R.I.B.A., S.A.D.G., and J. MURRAY EASTON, F.R.I.B.A.

Further details are on page 517.

completion, by 1942, of the new building to house the National Library of Scotland. The Commission recommends that, next year, the second half of the Entomology Block of the Natural History Museum and the Lecture Hall of the Royal Scottish Museum should be completed.

Future building plans include a Central Section of the Science Museum, a Northern Wing of the Natural History Museum, and the new Museum of Ethnography. The cost of the building schemes over the next ten years is likely to be well over £1,000,000.

* * *

A New English Church at Kampala, Uganda.

THE foundation stone of the new English Church of All Saints', Kampala, was laid on August 18 by the Governor of Uganda, Sir Philip Mitchell. The church has been designed by Mr. C. T. Mitchell, F.R.I.B.A., Government Architect.

* * *

Design and Industries Association : Second Week-end Conference.

THE second week-end Conference of the Design and Industries Association, 6, Queen-square, W.C.1, takes place at Buxton from September 29 to October 2. Mr. Sinclair Wood and Mr. Montague Jacobs will be the speakers in a discussion on "Selling Good Design to the Public." Another discussion will be held on the subject "Is Design Worth While?—The Manufacturer's Viewpoint."

The Conference dinner will be held on Saturday, October 1, and the speakers will be the President, the Rt. Hon. Lord Sempill, A.F.C., and the Rt. Rev. the Lord Bishop of Derby. The headquarters of the Conference will be the Spa Plaza Hotel, Buxton.

* * *

Scottish Building Costs : Committee of Inquiry Appointed.

A DEPARTMENTAL COMMITTEE to inquire into the increase in building costs of working-class houses has been appointed by the Secretary of State for Scotland. The Committee's appointment is the outcome of the Secretary of State's promise, made during the debate on the Estimates for the Department of Health in the House of Commons on July 20, that an inquiry would be undertaken. The terms of reference are: "To inquire and report as to the reasons for the increase in the cost of building working-class houses in Scotland."

The Secretary of State has appointed Mr. James Barr, F.S.I., to be chairman of the committee. The other members are: Mr. Adam S. McKinlay, Mr. T. Aikman Swan, A.R.I.B.A., F.R.I.A.S., Mr. Robert Adam, Mr. William C. Davidson, F.S.I., Mr. Alex. Harrison, C.A., and Mr. George H. Henderson.

* * *

Scottish Health Conference.

IN connection with the Scottish Health Campaign, the Department of Health for Scotland are holding a second Health Conference at the Empire Exhibition, Glasgow, on September 30. As at present proposed, the general arrangements are that the Conference will be confined to two sessions. The morning session, under the chairmanship of the Secretary of State for Scotland, will be devoted to the subjects of (i) Port Sanitary Administration, and (ii) Air (Atmospheric Pollution, Smoke Abatement, etc.); and the afternoon session, under the chairmanship of the Minister of Health, will deal with the subjects of (iii) Protective Foodstuffs and (iv) Water.

THE HALL, "SPANIARD'S MOUNT," HAMPSTEAD.

Showing the hall of Mr. Adrian Gilbert Scott's home at Hampstead, this photograph is one exhibited by Mr. S. W. Newbery at the Exhibition of "Photography in Commerce and Industry," now open at Princes Galleries, Piccadilly.

In a letter to the Secretary of the R.I.B.A., Mr. John L. Jack, of the Department of Health for Scotland, 121a, Princes-street, Edinburgh, 2, invites members of the Institute who would care to attend to send their names and addresses to him in order that formal invitations may be sent to them.

* * *

Glasgow Exhibition Buildings : Proposed Retention.

INFORMAL talks are taking place between members of the Administrative Committee of the Exhibition and Glasgow Corporation Liaison Committee on the future of certain buildings at Bellahouston Park, but it is not likely that any decision on what pavilions are to be retained will be issued for several weeks. The Palace of Art and the Corporation Pavilion are, of course, permanent structures, but it has been urged that the Corporation should retain the Palace of Engineering for conversion into a sports stadium, and also the Concert Hall. It has also been pointed out that the fountains, the ornamental lake, and the cascades on both sides of Bellahouston Hill would, if retained, add to the amenities of the park.

* * *

Old Regent-street : The Last Building.

THE last surviving building of the original Regent-street is now to disappear. It is No. 11, Regent-street, S.W.1, a narrow building only three windows wide, with a stucco front. It has been suggested that its designer may have been G. S. Repton, John Nash's assistant.

* * *

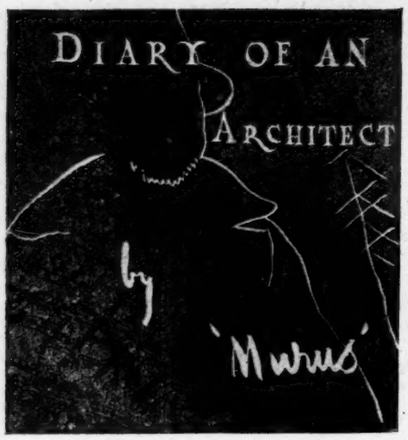
The Preservation of Windmills : Essex and Bedfordshire Examples.

THE Minister of Health has approved an Order made by Essex County Council under Section 17 of the Town and Country Planning Act, 1932, for the preservation from demolition of the Ramsey Mill, in the rural district of Tendring, three miles from Wrabness. The mill is a post-mill mounted on an exceptionally tall, round house, containing three floors. It was built in 1842, and is once more at work. The Society for the Protection of Ancient Buildings have associated themselves with the preservation of the mill.

Another mill whose future is affected is the Keysoe Windmill, a well-known Bedfordshire landmark, which is to be sold.

Professional Announcement.

Mr. R. Myerscough-Walker, A.R.I.B.A., A.A.Dipl., announces that until further notice his addresses will be the Chelsea Arts Club, 143, Old Church-street, S.W.3 (telephone: Flaxman 5524), and 3, Trafalgar Studios, Manresa-road, S.W.3 (telephone: Flaxman 9877).



CONFUSION OF THE AGE.

THIS is a Diary written *en route*, or, to be more truthful, during a wander round London with a secretary taking down isolated notes of any slight incidents which might appeal to any architecturally minded journalist. I have just been looking at a great modern office building now approaching completion, and am moved to the following reflections.

* * *

One can peer closely at such a building without recognising the sociological meaning contained behind the façades. From a form of existence where work and play form an integral meaning in life, we have become so inured to this massed housing for workers that the reality of the building as a house of small cells in which black-coated men can work from nine till six is lost. A. J. SYMONS, who is a connoisseur of both books and life—or are the two synonymous?—wrote an essay in the *Journal* of the R.I.B.A., or rather, gave a lecture at the Institute which was published in the issue of the *Journal* of August 15, reviewing aspects of life under the title of "The Rights of Leisure." It is a polished piece of writing, which some might easily mistake for being more clever than profound, but that is usually the fault of the facile writer. Contained within this short lecture are a number of sound principles which cut clean across the existence to which we have become accustomed.

One paragraph, which runs as follows, gives a clear idea of his methods of approach, but I strongly recommend you to read the whole lecture:

"If ever I am privileged to speak in this Institute again I shall cast my remarks in the form of a three-act play. In the first act the impoverished landowner will be seen selling his acres to a speculator, who is buying them with money borrowed from a building sociey. In the second the speculator will be observed selling the acres bought with building society money to a building contractor who is purchasing with money from the same source. And in the third you will see the working-man paying down £25 and obtaining the house that Jack built—through the aid of a building society!"

* * *

How difficult it is to see it all in perspective, because one infers, by the criticism of this age, that past ages were free from such confusion; and yet, I cannot wholly believe it, and, in fact, my present position, in the basement of the London Museum, is almost a downright denial of these past Utopias. I am standing in a rather dark corridor, obviously part of the original cellars of Lancaster House, which started building in 1825 from designs by Benjamin Wyatt. It was completed for the Duke of Sutherland by Sir Charles Barry. It is a very grandiose conception, backed by a recent but nevertheless rich history. Contained inside are all the collected incidents and curios which go into the making of London history. In this corridor are the models of 16th- and 17th-century London. It all looks very confused, very insanitary, and, in general, can best be described as of the romantic school, that is, interesting but chaotic; note the forest of chimney stacks, the wealth of half-timbered houses, the injudicious placing of numerous church towers, and a layer of dirt which may be authentic or may be a patina which JOHN THORP, the model maker, has laid on the subject. Most striking of all is the astounding size of, and dominance of the city by, the old Cathedral of St. Paul—the huge Gothic conception with an extensive nave, and a chapter house which looks the size of the R.I.B.A. building. The spire must have been as great as that of Salisbury, and the houses surrounding a disgrace to the clergy.

* * *

Here at the London Museum there are some superb specimens of two-handled *amphoræ* (a form of wine-jar for transportation), and a monumental staircase leading from the ground floor to the first which is as vulgar as the *amphoræ* are exquisite. There are a number of things about this museum which show a lack of taste in display. It probably is not the fault of the present Board so much as the overpowering architecture which forms the background, which was originally Stafford House.

* * *

The confusing question of styles, contemporary and historic, seems to me to result in the conclusion that the individual ego is always unleashed—in the arts, very frequently to the detriment of the subject. A new London building, which shall be nameless, almost screams egoism in design, and is burdened by the application of numerous motifs. It has small glossy looking bricks, mannered in their geometric arrangement; and is covered with the same geometric-minded ornament, not unlike the Moorish tradition, which did not allow of subject matter being introduced into design. Like so many contemporary buildings, it is without date, without a single-minded tradition, and is derivative of the architecture of many buildings. One way of criticising modern buildings would be to analyse them on the basis of their prototypes. A list of the ideas and from whence they came would illustrate more vividly than photographs or specific description the sum total of their worth.

* * *

A good deal of the present eclecticism in architecture must be calculated to appeal to the client's sense of satisfaction. I imagine most architects draw with a client's applause resounding in their ears, and the next Exhibition at the R.I.B.A. on the Small House is bound to produce that crop of potential clients which small houses seem to attract in such numbers. My files contain one small section devoted to letters from people who have seen photographs of jobs I have done, in particular one small house, and asking for costs and possibilities of repetition. It may be that contemporary architecture intrigues people, but not to the extent of allowing them to build in the style themselves; or it may be that the world is populated by curious people with a lot of time to waste, but I have rarely known any of these inquiries come to anything, no matter whether the reply to such letters is personal and enthusiastic or impersonal and merely supplying information without trimmings. On the other hand, one firm of architects I know which indulges in half-timbered houses assures me that all its work is got from such sources.

A confirmation of this problem probably lies in the fact that another friend of mine—a woman architect—put a certain amount of money in building some small houses in a contemporary manner as a speculation. They did not sell; and on another site the same architect built some Elizabethan atrocities which (and for this reason I do not give the name of the architect) were purposely made vulgar, and I am sorry to say that they have sold like hot cakes.

* * *

The moral seems fairly clear; but it still remains a nasty thought.

Mnemo

COMPETITION NEWS

A Proposed Church, Wallsend.

The Church Extension Fund Committee, Newcastle-on-Tyne, are to hold an architectural competition for a £7,000 church, Wallsend. The solicitors to the Committee are Messrs. Stanton, Atkinson and Bird, Grainger-street, Newcastle-upon-Tyne.

Municipal Buildings, Edmonton.

Mr. E. Berry Webber, A.R.I.B.A., has been appointed assessor for a competition proposed for new town hall buildings, Edmonton, N.

CURRENT COMPETITION.

	Particulars published in "Builder."	Sending in date.
Rebuilding of St. George's Hospital, for the Governors. Messrs. H. J. Lanchester and T. A. Lodge, FF.R.I.B.A., assessors, assisted by Mr. G. A. Codd. Premiums: £500, £300 and £200. Conditions (dep. £2 2s.) from the House Governor, St. George's Hospital, S.W.1 ...	Jan. 14	Oct. 15
Proposed Nurses' Home, Falkirk, for Falkirk and District Royal Infirmary. Mr. Charles G. Soutar, F.R.I.B.A., assessor. Premiums: £150, £100 and £50. Conditions, etc. (Dep. £1 1s.) from Mr. Duncan Kennedy, W.S., Hon. Secretary, Falkirk and District Royal Infirmary, Major Loan, Falkirk. Questions by Sept. 5	Aug. 5 Aug. 12	Oct. 31
Senior School, Broom Hall, Shrewsbury, for Shrewsbury Corporation. Mr. C. Cowles-Voysey, F.R.I.B.A., assessor. Premiums: £200, £150, £100. Conditions, etc. (Dep. £1 1s.), from the Town Clerk, Guildhall, Shrewsbury. Questions by Sept. 10	Aug. 5	Nov. 21
Municipal building, Brierley Hill, for U.D.C. Mr. Verner O. Rees, F.R.I.B.A., assessor. Premiums: £250, £150 and £100. Conditions (dep. £2 2s.) from Mr. F. Oakes, Clerk of Brierley Hill U.D.C., Council Offices, Moor-street, Brierley Hill. Questions by June 30	June 3 June 10	Nov. 30
New Town Hall, Newcastle-upon-Tyne, for C.C. Mr. Verner O. Rees, F.R.I.B.A., assessor. Premiums: £750. £500 and £300. Conditions, etc. (dep. £2 2s.) from the Town Clerk, the Town Hall, Newcastle-upon-Tyne, 1. Questions by July 15	June 24	Nov. 30

CORRESPONDENCE.

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Proposed Society for Quantity Surveyors.

SIR,—I have withheld my reply to Mr. A. W. Crampton's letter, published in *The Builder* of August 26, regarding mine in the issue of August 19, in order to formulate one letter to cover all those of an oppositional nature. So far only one other has materialised, namely that of Major G. B. J. ATHOE. Neither of these can be regarded as strongly oppositional, and as the gist of both is similar, a reply to Mr. Crampton's will also cover that of Major Athoe.

Mr. Crampton states that he could understand the suggestion if a new special occupation were involved for which no existing organisation appeared suitable. Obviously a new occupation is not involved, but a special one certainly is, and a separate organisation is urgently needed for it.

There are certain subjects common to all the various surveying professions and the architectural profession, but these professions also each have special subjects which make them distinct from one another. If one were to make comparisons, the work of the quantity surveyor is closer allied to that of the architect than it is to the estate agent, but at present the first and last are represented by the same body, although their work is very dissimilar. In spite of the closer relationship between the quantity surveyor and the architect, the two professions are quite distinct.

To make another comparison, the electrical, mechanical, and automobile engineers all "make the wheels go round" and their preliminary training is similar; but each has a representative body because they are just as distinct from one another as the various surveying professions are.

With regard to the modern trend for amalgamation this is certainly so in commerce, but even here it is not usual for dissimilar trades to combine, so why should dissimilar professions amalgamate? The professions of estate agent and auctioneer invariably go hand in hand, but the Chartered Surveyors Institution and the Auctioneers and Estate Agents Institute have not yet amalgamated. Again, why was the Incorporated Association of Architects and Surveyors formed when bodies already existed to represent these professions?

Neither Mr. Crampton nor Major Athoe produces one single concrete reason why the quantity surveyors should not have a representative body of their own. The reasons for the necessity of such a body can be briefly summed up as follows:—

(1) Quantity surveying is as much a specialised profession as that of the estate agent and the architect, and cannot be successfully controlled by an "omnibus" body.

(2) The large number of incompetent quantity surveyors must be eliminated.

(3) Training and qualification must be greatly modified. (What is the use of a surveyor with only 55 per cent. efficiency?)

(4) The quantity surveyor must be placed on an equal footing with the architect, and not treated by the latter as a necessary evil, as is so often the case.

In conclusion I may say that the response I have received gives ample proof that the formation of an Association for Quantity Surveyors is generally favoured.

W. TREVOR JONES.
"Hazelwood," Mill-street,
Kidlington, Oxford.

Redecoration of Buildings.

SIR,—The suggestion that local authorities generally should follow the lead of the Aberdeen Town Council and seek powers to require property owners to redecorate the exteriors of buildings where their appearance is harmful to local amenities, has been criticised on the grounds that many local authorities are themselves neglectful in such matters.

It may be true that some local authorities are not sufficiently concerned with the appearance of the properties under their control. I believe, however, that the very fact of suggesting to a local authority the need for considering the imposition of regulations as a means for preserving local amenities would serve as a timely reminder of the authority's own responsibilities in matters of decoration and design.

Moreover, any local authority passing such regulations would obviously be bound to set a good example to its ratepayers in observing them itself.

G. B. J. ATHOE, Secretary,
Incorporated Association of
Architects and Surveyors.
43, Grosvenor-place, Westminster.

NEW YORK WORLD'S FAIR

THE BRITISH PAVILION.

THE New York World's Fair of 1939, which will cover an area of more than 1,200 acres, will be the largest exhibition yet held in the world. Foreign participation will be on a very large scale. The British Empire will be represented by the Dominions of Canada and Eire with their own pavilions, and by the Dominions of Australia and New Zealand who, with the Colonial Empire, will join with the United Kingdom in the British Pavilion. This has been designed by Mr. Howard Robertson, F.R.I.B.A., S.A.D.G., and Mr. J. Murray Easton, F.R.I.B.A.

The site of the British Pavilion (see perspective on page 514) is in a fine position—one of the few for foreign participants, making possible an ample garden. The position is in that section of the Fair which corresponds to the Civic Centre of a town, *i.e.*, the park containing Government and municipal buildings; in this case represented by the U.S. Federal group and the finest of the foreign positions.

The Site and Its Problems.

The site presents peculiar architectural problems. The two areas allotted to His Majesty's Government are divided by a road, and both have curved frontages. But as sometimes happens, the difficulties lead to individual possibilities of treatment. For instance, there is the necessity for an interesting bridge to link the two main divisions, the Hall of Majesty which is the grand vestibule to the British Exhibit, and the Hall of Achievement which is the bigger section, and which looks only over the English garden. Then there is the access to the Hall of Majesty, which is on the bridge level, *i.e.*, on the first floor. This gives rise to the monumental double outside staircase, mounting 18 ft. wide in an open loggia, and dominating the great oval lagoon which is the Square of Honour leading to the American Government buildings. This staircase will be approached under a gilded portcullis bearing the Royal Arms in colour. The wall backing the staircase will be fluted, and entirely gilded. Doors of bronze will lead to the two circular vestibules which are the twin entries to the series of apartments forming the Hall of Majesty, the central one of which will be 180 ft. long and 75 ft. in width, and will contain amongst other exhibits the history of England depicted in terms of heraldry. From this central hall a 28-ft. wide bridge leads to the Hall of Achievement. The visitor arrives here at first-floor level, and sees in front of him a floor descending in three easy stages, while at the same time the roof above him rises in three tiers, the highest position being at the far end of the building 300 ft. away.

At the end of this long vista will be the architectural climax of the Pavilion, a beautiful golden statue, 45 ft. in height, one of the biggest pieces of sculpture ever placed inside a building. The architectural treatment of the long nave leading up to this figure will be simple and severe, for the statue will be the climax of the architectural conception, and the exhibits within the central naves and its two aisles will be allowed to dominate in interest.

The Hall of Achievement will be daylight lit. A row of vast windows, shaded by triple-tiered awnings, will present an unobstructed view of the English garden, and a verandah terrace opening out from the ground floor will give shaded access to it. At one end will be a bandstand for 60 musicians, high above the garden, the whole space of which will thus be free for lawns and planting. In front of the great statue inside the hall a double staircase leads down to the ground floor, and so back to the other entrance to the building, which is beneath the bridge connecting with the Hall of Majesty.

The Hall of Achievement will include a special exhibit which is being organised by the Ministry of Health, the Ministry of Labour and the Board of Education in co-operation, and which will depict interesting aspects of the many and varied social services of the United Kingdom; a Maritime Section, in which the attention of visitors will be drawn to the progress of sea transport, and a series of industrial exhibits which will include fine woollens, linens, leather and fine leather goods, pottery and fine chinaware.

Other features will be a section devoted to the attractions of the British Isles from the travellers' point of view; a Hall of Metals in which will be housed certain engineering exhibits, and an Historical Hall or Hall of Democracy. There will also be a cinema for the display of documentary and other films.

The External Decoration.

The exterior of the building will be cream, relieved with warm colour, the walls surfaced with a rendering containing tiny sparkling particles of mica. Awnings and verandahs necessary in the strong sunlight of a New York summer, will be a feature of the exterior which directly expresses the form of the building's plan. The highest position of the building containing the statue has a height of over 90 ft., and the scale throughout is bold and generous.

The exterior of the Hall of Majesty, which on its ground floor will contain the exhibits of Australia, New Zealand, and the Colonial Empire, is designed in its main lines by American architects to conform with the rest of the buildings of the American Federal group, and is one of the most attractive schemes amongst the World's Fair units.

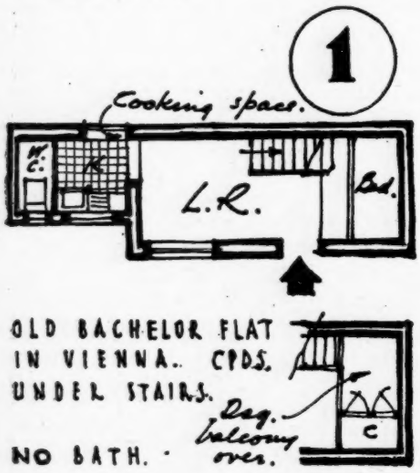
APPROACH TO PLANNING

By FRANK BENNETT, A.R.I.B.A.

II.—THE ONE-ROOM FLAT.

THE man who takes on the responsibility of building a block of one-room flats—I mean the potential owner—shoulders the burden of considerable anxiety.

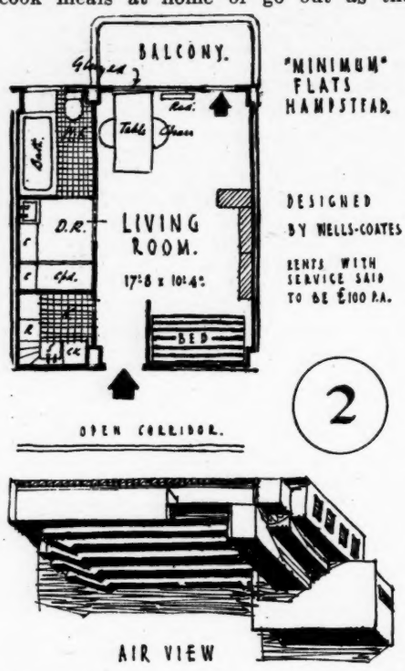
He may start off with confidence, acquiring what may appear to be a magnificent site, appointing a competent architect and allocating the most favourable building contract; but later on self-confidence may desert him and, losing a little faith in his own judgment, he may find himself saying: "Perhaps the site is not so good after all; is the architect really developing this site to the best advantage? Does the builder know his job? The figures in the financial study, although worked out to show a gratifying return on the investment, may have been just a little optimistic—not much, just a little here and there, enough to colour up the scheme into a rosy prospect. When the building is built, instead of people rushing in, clamoring to be the first tenants, perhaps nobody will come at all! Perhaps, in some way, the whole scheme will just miss the mark. Such a thing did happen before, once at least, with a building on Fifth-avenue, New York."



Black thoughts of another kind may descend upon him and whisper: "An architect can be headstrong enough to do something odd, something difficult for me to anticipate by looking at the drawings. Hoping to be up to date, this architect may cause the outside to look hideous and frighten people away. Not only this, but something may go wrong with the structure. Legal troubles may arise and cause me loss and anxiety."

While in his better moments this owner will fondly anticipate a good 20, 30 or more per cent. on his initial capital, he may end up by having to feel satisfied with only 3½ per cent., and that after the agonies of perhaps two years of litigation. Many a speculating owner is lucky not to lose his entire capital.

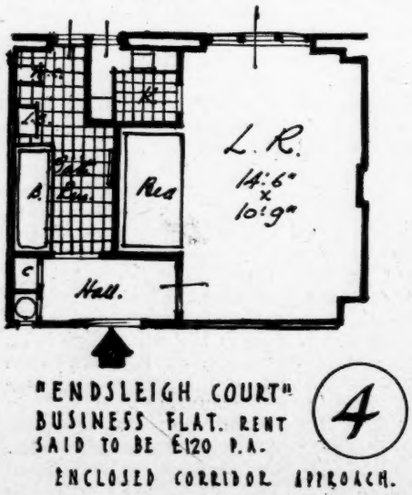
But consider the man or woman at the other end of the enterprise, the person who wants to pay to live in a one-room flat. He will expect to enjoy certain privileges he cannot have in a 20s. lodging or a small maisonette elsewhere. He will want to feel that nobody is watching him, prying into his private affairs. He will want to stay out at nights without the irritation of having to account for himself at the breakfast-table; not having to queue up for a bath and then pay 9d. for it; to satisfy his whim, moving the furniture about whenever he likes; to entertain whom he pleases without bothering what other people will say, and to cook meals at home or go out as the



fancy takes him. In other words, he wants to enjoy all the privileges of a householder with few or none of the responsibilities, and at the smallest and most precisely defined cost.

The tenant will have to accept certain disadvantages. He cannot complain if at times he feels like a monk cooped up in a cell. If, losing his job, he runs short of money, he cannot wheedle the management into allowing him credit as he might a landlady. The manager will be stonyhearted, turn a deaf ear, and throw him out, probably confiscating his furniture, too.

If the architect employed to design the prospective building bears these two points of view in mind, those of the potential owner and of the potential tenant, and places himself like an intermediary between them, he will begin to realise some of the limitations and possibilities of his task. He should be able to feel his way happily towards the solution of a problem which may present disagreeable obstacles if approached in another way.

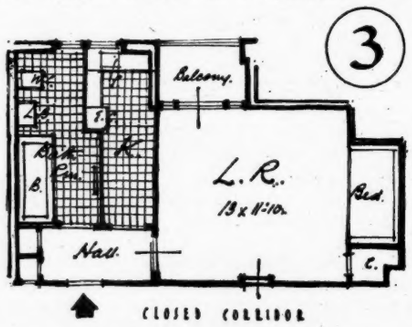


If an architect is unwise enough to think too soon about the astonishment and delight he will give the public by the beauty of his façade, by the sleek modernity of his massing, he may, of course, find that he pleases neither the owner nor the prospective tenants nor even himself in the end. The direct approach to the problem will cause him at first to eschew questions of abstract design and to face the flinty facts of expenditure *versus* income.

Rough estimates can be worked out by one of the systems in common use. One can figure out the cost of a column of say 9 ft. by 1 ft. by 1 ft. of building and add to it a proportion for site value and overheads and then relate this to the return anticipated from one square foot of floor area, minus a proportionate deduction for corridors and for outgoings. The resulting figure gives the likely rate of income on the capital investment and shows if the plans fulfil their main object.

The designer wrestles with the dual problem of providing, on one side, for the benefit of the tenant, a maximum accommodation at minimum rent, and, on the other side, for the benefit of the shareholders, a *minimum* of accommodation and service for a *maximum* rent.

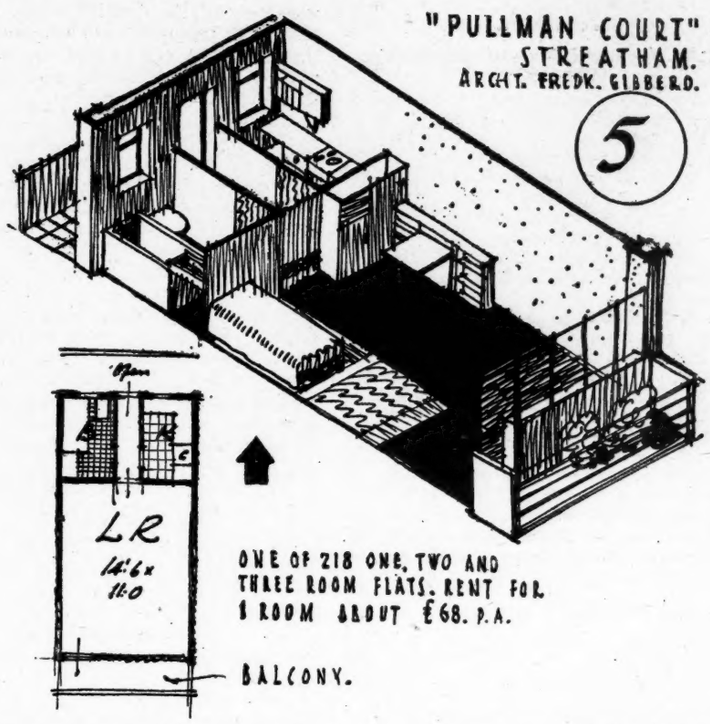
The plans illustrated show in practice the amount of space that money can hire. The flats in Russell Court, Fig. 7, are said to rent at about £1 a week, and those



at Hampstead, Fig. 2, at about £2 a week. The surface area of the more expensive flat is little greater than that of the less expensive flat, but the tenant enjoys greater amenity. He looks out into the open from his bathroom in one direction, and from his kitchen in another, while the tenant in the less expensive flat sees out only in one direction, and from only one window. The closed corridor in Russell Court, which gives on to flats from both its sides, is replaced in the Hampstead flats by an open gallery on a principle similar to that in the well-known flats in the Wandsworth-road designed by Grey Wornum. While the flat in Fig. 2 takes as much as 21 ft. of outside wall, the flats in Fig. 7 take only about 12 ft.

The flats in Pullman Court, Fig. 5, and Russell Court, Fig. 7, are similar in the relationship of service compartments to the living-room, but Pullman Court justifies the charging of higher rents for its flats by the same sort of open gallery as in Fig. 2.

While all these flats are alike in consisting of a bed-sitting room adjoined by service compartments, in possessing a bathroom with w.c. and lavatory basin, and in allocating a small space dignified by the name of a "hall," the kitchens differ. The kitchens vary from something like a full-length affair, as in Fig. 3, to



a modest "pantry cupboard," a sort of kitchenette hiding behind doors, as in Fig. 7a. The flat in Fig 2 provides the luxury of a definite dressing-room not unlike, but larger than, the space provided in the Mount Royal flats between bathroom and kitchen, Fig. 6. While Figs. 2 and 6 are planned on the same idea, the plans in Figs. 3 and 4, both "Endsleigh Court," introduce a different type of hall. The tenant entering from the corridor has to turn right to reach the living-room instead of going straight forward. Some people may like their own balcony, but the same people may dislike the shadow of somebody else's balcony overhead.

The entrance hall placed next to the kitchen rather than away from it (compare Figs. 2 and 6) saves the tenant's effort, but tends to give the tenant's visitor an impression of entering the flat through the back door instead of the front.

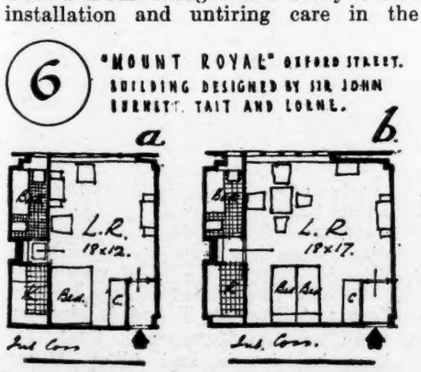
The flats with inside kitchens must depend, of course, on the reliability of artificial extracts. It is the only means of compensating for a meagre frontage at the one end and a closed corridor at the other. A ventilating system for a building like Russell Court, where neither kitchen nor bathroom faces out to the open air and the structure rises some 100 ft. above the ground, needs the most anxious thought and study before installation and untiring care in the maintenance. Any hitch in this delicate apparatus might soon empty the building of its more highly sensitive tenants.

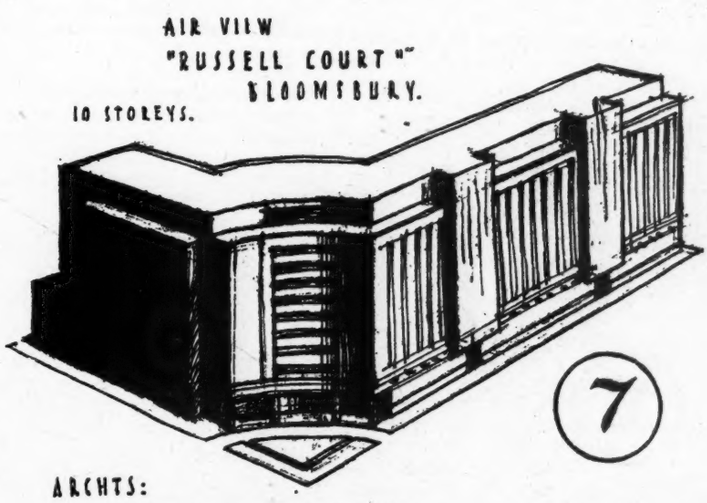
If these plans be compared for generosity of space in relation to the rents, relative site values should also be considered. Frontage in Bloomsbury costs more than frontage in Streatham. And, again, the exploitation of back land may lessen the proportionate cost of site per flat.

In some flats the accumulation of rubbish is liable to give trouble. This is overcome in some blocks of miniature flats by providing a rubbish hole accessible both from the kitchen and from the internal corridor. A man tours the corridors every morning emptying the rubbish from small buckets into a large bin on wheels. The equipment of the kitchen in other respects follows normal rules. Some designers like to introduce pet ideas of their own, exploiting the smallness of the space allowed to give value to neat contrivances. An electric cooker is a usual provision, but in the "pantry" in Fig. 7a the tenant has to cook as best he can with a kettle heater instead of a cooker.

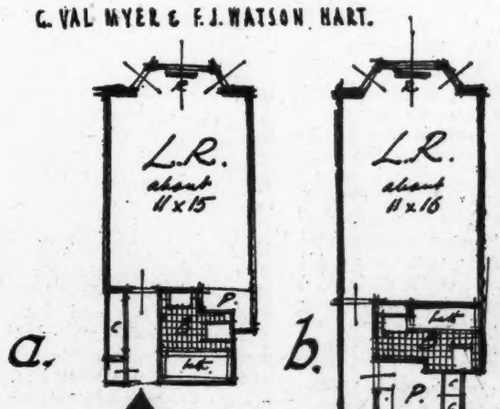
Notice that not one of these flats has an open fireplace. The omission is not difficult to understand from the owner's and the architect's point of view. Great towers of brickwork necessary to provide flues and running through 6, 7 and 8 stories of a building eat up both money and floor space. The condition might be easier, as it is in America, were it not for the rigour of the British laws which require 4½ in. of brickwork round every flue.

One-room flats with electric fires and radiator heating are no places for those people who feel they cannot survive an English winter without the comfort of an open coal fire. On the other hand, I have heard people say they prefer electric and radiator heating, not only because it is cleaner and saves trouble, but because they feel better and more healthy living with it. They say they never have colds now.





ARCHTS:
C. VAL MYER & F.J. WATSON HART.



2 TYPES OF FLAT. ONE WITH PANTRY CUPBOARD" AND ONE WITH SEPARATE PANTRY KITCHEN.

One of the troubles in small flats is said to be caused by noise and vibration. Beds placed next to a wall, especially a corridor wall, pick up noise and people cannot sleep. Carpets deaden the noise of footfalls along the corridors, but the management cannot be expected to stop people coming home late at night and rather merry. It is for this reason that the bed recesses in three of these plans, while attractive-looking on paper, are slightly suspect in reality. Probably the best position for the bed is not where three walls enclose it, but well away from any walls where only one man, the tenant below, can send up vibrations.

Smoothness of living in one of these flats depends a great deal on the tact of the manager. Like a shepherd tending his flock, he takes great pains to keep his tenants happy. In addition to having their rubbish bins emptied and seeing that the ventilators keep working, he hears their little troubles and shows a fine promptitude in having that tap put right and this lock adjusted. If tenants misbehave he does not resort to throwing them out as he may have to for owing rent, but instead he admonishes them and tries to make them improve.

An examination of the plans of one-room flats leaves one with a slight sense of disappointment. There appears to be an absence of those finely adjusted proportions which one sees in other plans and expects to see in these. The beauty of the actual building which contains the flats, the plans of which are illustrated, leaves little to be desired, and indeed this beauty in some instances reaches a high and most satisfying standard. But in the design of the typical unit plan the architects concerned seem to have been slightly overpowered. It is as if they were outwitted by the limitations of economy and structure. They have struggled to give value in fine proportion, but have had to be content more with a concentration on well-studied equipment and good finish.

The flats in Hampstead (Fig. 2) incorporate sliding doors and the unexpected feature of sliding tables. The tables, open on three sides, run along a rail fixed beneath the long stretch of an end window.

Fittings of this sort excite one's interest: they are attractive show pieces and suggest a degree of welcome and energetic thought put into the design of a building. The world pants for new ideas, the architectural world perhaps no less than any other, but, at the same time, new thought must fight a gruelling battle to establish itself against old thought. Old gadgets often reckoned as finished and well got rid of have an exasperating knack of suddenly coming back to life agian.

The interest of the little flat in Vienna (Fig. 1) is more archæological than practical. The plan is not offered as a specially pertinent contribution to present-day practice, but it serves to show the change of outlook since the days when a man-about-town thought it rather stylish to live in a one-room flat, even if he could not bath, and had to wash himself in the kitchen. To-day a West End dandy would not think much of it. All the same, this flat possesses a delightful quality, and there is something fascinating about the little staircase up to the dressing gallery over a built-in bed.

The one-room flat may have a bigger future than we suspect.

(To be continued.)

R.I.B.A.

R.I.B.A. (Archibald Dawnay) Scholarships, 1938-1939.

In accordance with the terms of the will of the late Sir Archibald Dawnay, the R.I.B.A. have awarded three scholarships of £50 for the academical year 1938-1939, one to Mr. J. R. M. Poole, of the School of Architecture, the Polytechnic, Regent-street, London; one to Mr. T. E. Fennell, of the School of Architecture, King's College, Newcastle-on-Tyne; and the third to Mr. J. B. Hall, of the School of Architecture, Edinburgh College of Art.

Mr. R. D. Hammett, of the School of Architecture, the Architectural Association, London, Mr. G. F. Horsfall, of the Liverpool School of Architecture, University of Liverpool, and Mr. N. B. Dant, of the School of Architecture, the Polytechnic, Regent-street, London, who were awarded scholarships of £50 each for the academical year 1937-1938, have been granted renewals of their scholarships for the year 1938-1939.

The scholarships are intended to foster the advanced study of construction and the improvement generally of constructional methods and materials and their influence on design.

Exhibitions of Students' Designs.

The designs of students of schools of architecture recognised for exemption from the R.I.B.A. Final Examination, will be exhibited at the R.I.B.A., 66, Portland-place, London, W.1, from September 29 to October 4, inclusive, between the hours of 10 a.m. and 8 p.m., Saturday, 10 a.m. and 5 p.m. The R.I.B.A. silver medal for recognised schools of architecture, and £5 in books, is awarded for the best set of drawings submitted.

The designs of students of schools of Architecture recognised for exemption from the R.I.B.A. Intermediate Examination will be exhibited at the R.I.B.A. from October 11 to 14, inclusive, between the hours of 10 a.m. and 8 p.m. The R.I.B.A. bronze medal for recognised schools of architecture, and £5 in books, is awarded for the best set of drawings submitted.

The Intermediate Examination.

The following are the dates on which the forthcoming R.I.B.A. Intermediate Examinations will be held: November 18, 19, 21, 22 and 24, 1938. (Last day for receiving applications, October 18 next.)

OBITUARY

Sir Basil Mott, Bt., C.B.

We regret to record the death of Sir Basil Mott, Bt., C.B., F.R.S., senior partner in the firm of Mott, Hay and Anderson. He was 78.

Born on September 16, 1859, he was educated at the International College, Switzerland, and the Royal School of Mines, South Kensington, where he won the Murchison medal in 1879. After spending some years as mining engineer for several collieries he became assistant to J. H. Greathead in the construction (1886-90) of the City and South London Railway from the Monument to Stockwell—the first of the deep-level tube railways—and in partnership with the late Sir Benjamin Baker he was engineer for the Central London Railway from the Bank to Shepherd's Bush, which was opened in 1900.

Later, as a member of the firm of Mott, Hay and Anderson, he was associated with many bridge schemes and other works relating to road transport, including the Mersey-road Tunnel. Sir Basil's work as chairman of the works subcommittee responsible for the restoration of St. Paul's Cathedral is, of course, well known to the architectural profession.

Sir Basil Mott, who became C.B. in 1918 and was created a baronet in 1930, was president of the Institution of Civil Engineers in 1924 and was elected a Fellow of the Royal Society in 1932, and of the Imperial College of Science and Technology in 1933.

A. W. Shelton.

Mr. A. W. Shelton, who was a leading authority on the housing of the working classes, died at Nottingham on September 10, in his 76th year. He was called upon by the Government in an advisory capacity on housing on several occasions. He had been president of the National Federation of Property Owners and Ratepayers. He had also been president of the Nottinghamshire Cricket Club, and it was largely due to his efforts that the collection of cricket curiosities and the formation of a cricket library were made at Trent Bridge.

THE LONDON SALON OF PHOTOGRAPHY

An attractive exhibition is now being held by the London Salon of Photography at the galleries of the Royal Society of Painters in Watercolours, 5a, Pall Mall East. It is the last exhibition to be held in a building in which the Watercolour Society have exhibited since 1825. Of the many watercolourists who have there been represented a number have risen to fame, and by those and others the break will be greatly regretted. The present exhibition is the 29th of the London Salon, and from 5,000 prints submitted some 400 have been selected for showing. The standard of the work is high. Figure subjects, portraiture and landscapes predominate, with a lesser number of architectural subjects. Generally the prints possess a quality and softness of tone, which is no doubt accounted for by the absence of a need to consider the essentials for reproduction. Among many striking prints may be mentioned those by Mr. C. J. Symes—No. 4, "Venetian Interlude," a view of the well-known Campanile with gondolas in the foreground; No. 22, "Spalato," and No. 171, "The Bridgehead," the latter group of buildings picturesquely built up, making a striking and dramatic composition; it would be interesting to know its whereabouts. No. 40, "The Old and the New," by Mr. J. M. Whitehead, is typically English, a harvest scene with distant hills and an old mill in the foreground. No. 85, "Glory of the Past," by Mr. F. J. Mortimer, is a study of the bows of an old wooden sailing ship (a type of vessel now fast disappearing, like much of our old domestic architecture); at the bow is a finely carved figurehead—two figures supporting a shield; it is not difficult to visualise the decorative character that this, in colour, would add to the vessel. No. 91, "The Shape of Things to Come," also by Mr. F. J. Mortimer, shows the bows of a modern steel vessel, which makes an interesting contrast with the former. No. 99, "The Salute Avranches," by Mr. C. H. Emanuel, is a good study of an architectural subject. No. 73, "George Bernard Shaw," by Mr. William Flower, appears to be a good portrait. A number of ballet scenes and nude studies demand attention, as do many other subjects, including colour photography, of which some fine examples are to be seen. The exhibition is open until October 8.

Keeper of Ceramics, V. and A. Museum.

Mr. Bernard Rackham has lately retired from the Victoria and Albert Museum, South Kensington. He has been succeeded by Mr. W. B. Honey.

A GREAT AMERICAN BUILDER

PAUL STARRETT'S REMINISCENCES

THE American building industry is variously regarded by the British constructor. The remarkable stories of high-speed erection and the frank competition among speculators to erect "the highest ever" which reach these shores have, we are afraid, quite the opposite effect to that intended, for it is a fair inference that rushed work and fine craftsmanship seldom go hand in hand.

Paul Starrett's fascinating autobiography* serves as a reminder that there are exceptions to every rule. The author has already, of course, one distinction; he is possibly the only American builder whose name trips readily to the tongue of the Englishman. As the constructor of the father of skyscrapers, the Flatiron building on Broadway and Fifth Avenue, and that latest of the giants of the Manhattan skyline, the Empire State building, Mr. Starrett has seen at close quarters the birth and growth of the movement towards big buildings which has given the United States a special place in architectural history.

Every self-respecting autobiography rightly starts at the beginning. The one under review is no exception but, passing over the account of the early life of Paul Starrett and his four brothers, interesting though it is, we go straight to the first great landmark in Starrett's life—the year 1888, when he went into the office of D. H. Burnham to be trained as an architect. What he learnt in the office of the greatest name in American architecture of his time was to aid and guide him throughout his career, for Burnham—ex-prospector and draughtsman—was the first man to see the temper of the time, the spirit of growth and push which was abroad in the United States, and to seize on it as no other architect of his time had done. Not that Burnham did much of the designing; that was done by John Wellborn Root, who was the real architect of the firm, Burnham being the salesman. But the office was many years ahead of its time in organisation, and this experience, added to a knack for working out engineering problems connected with buildings, stood young Starrett in good stead at a period when the skyscraper, with all its new problems was being born.

Paul Starrett, in his time with Burnham, was not long in discovering that his bent was not towards design but rather towards management or superintending of building jobs. In this latter work he picked up a vast amount of sundry details of construction, the actual facts of building, which he remembered and recorded. How useful that memoranda came in subsequently is told in the book when, after turning to contracting, he was able to sit down literally at a moment's notice and, working from rough sketches and without any written description or references whatsoever, put in overnight a £160,000 estimate for a twelve-storey hotel. Not only was the bid successful but eventually a substantial profit was made. Mr. Starrett's comments on that spectacular feat are worth noting: "The fact that I had risked so much and had come out successfully might, you may think, have tempted me to repeat. But I never did an unwise thing like that again. Once was enough."

Co-operation Between Architects and Builders.

Working with D. H. Burnham on the Columbian Exposition in Chicago in 1893 brought home to young Starrett the lamentable lack of co-operation between architects and builders which existed at the time. A desire to rectify this, allied to the fact that he felt his talents lay in the direction of organisation, sowed in Starrett's mind the idea of going into contracting. The opportunity for realisation came when he asked for and obtained a job in the George A. Fuller Company, one of the larger construction companies in Chicago. The moving spirit in the company at that time was Harry S. Black, gambler, entrepreneur, man of ideas, but never a builder. Alliance with Black brought forth, in the twenty-five years in which Starrett worked with him, a number of situations and contracts, the tale of which makes interesting and sometimes hair-raising reading for any constructor, whether architect or builder. Often Black would bring in a job to the office having given a price which he was far from qualified to give. It was then Starrett's job to put up the building and, if possible, to make something out of it for the company. His love of good building for its own sake would not allow cut workmanship or materials, and the solution was found in detailed organisation of materials and labour which earned a bonus for early completion. Out of necessity, therefore, was born the knowledge of organisation of jobs which was later to enable Mr. Starrett's company to erect the Empire State building—weighing 308,000 tons and 1,245 ft. high—inside 11 months.

Through the period of 25 years with which Starrett was associated with the Fuller Company and with Black occur the names of men such as Stanford White, Harry Thaw, Cass Gilbert, Henry Ford, Raymond Hood, Al Smith, and many others. In this period were built, among many others, the Flatiron; the "New York Times" building; the Munsey building; the National City Bank, New York (McKim, Mead and White, architects); the Lincoln Memorial, Washington; Pennsylvania Station, New York; the Chateau Laurier, Ottawa (Ross and McFarlane, architects); and the National City Bank, Havana (Walker and Gillette, architects).

One Way of Treating the Client.

Each of these jobs is described with much interesting fact and comment, the personalities involved, the way the contract was obtained and how the building was erected. The Munsey building provides an instructive example of how personality (in this case, that of Stanford White, the architect) may tell. Owing to White's passion for architectural embellishment and fine materials, the building was estimated to cost 150,000 dollars more than the original provisional figure. This, according to Mr. Starrett, is how Stanford White handled Frank Munsey, the client:

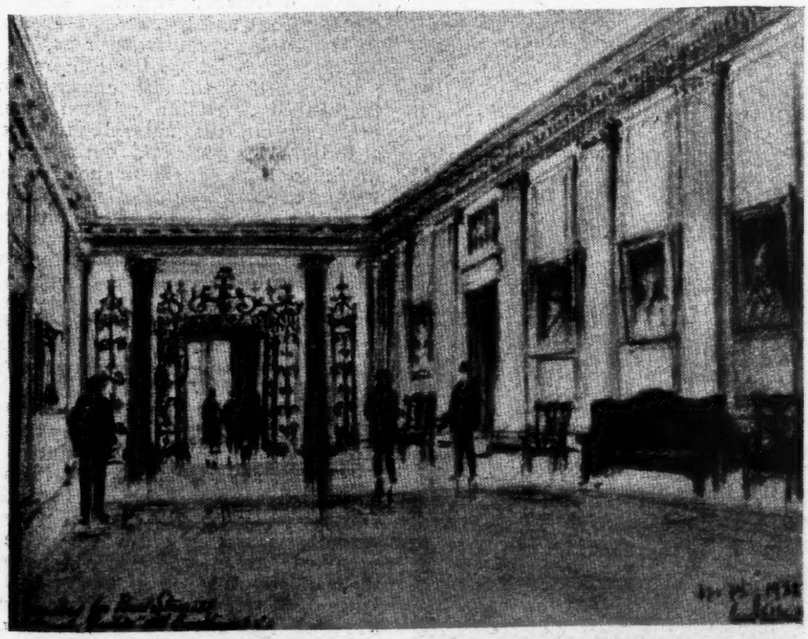
"Mr. Munsey," he said, "we have discovered that the soil underneath your building is a swamp. God Almighty did that. So the foundations will cost you $50,000 more. I am giving you a marble front up to the third storey. Naturally this is more expensive than limestone. This means $50,000 more. To top off the building I have fashioned you a beautiful polychrome terra-cotta facade, something in which you can take pride. This means $50,000 more."

He paused, gazed across the square to his Madison Square Garden. . . .

"You have a fine view here, Mr. Munsey," he said, and ducked out of the room.

The Woolworth building was one job in this period which the Fuller Company did not get, solely, it appears, because Cass Gilbert, the architect, was offended that Starrett should have advised Woolworth against clothing this pseudo-Gothic design in terra-cotta which, he said, would not stand up to the New York climate. In after years the sight of the upper part wired with metal mesh to prevent the terra-cotta falling on the heads of passers-by was a verification of Starrett's judgment.

* "Changing the Skyline," by Paul Starrett. (London: McGraw-Hill Publishing Co., Ltd.). Price 12s. 6d.



A TWENTY-MINUTES' SKETCH BY CASS GILBERT.

Executed on a writing-pad at a conference during the planning of the New York Life Insurance Building, for the benefit of a director who "could not visualise the appearance of the main office corridor when completed."

Half-a-dozen columns would be insufficient to set down the store of wisdom, anecdote and humour, which is to be be found in this book, though space must be made for the magnificent definition of a contract given by an illiterate Pole to whom Starrett gave his first chance in the demolition business.

Finding that the Pole signed the contract with a cross, Starrett said: "But Jake, you haven't read your contract!"

"Mr. Starrett," said Jake, "Vat is a contract? If you gyp me, you gyp me; if you don't, you don't."

Nor can room be found for more than a few of the innumerable building tips given. Here is a selection:—

"The constructive instinct . . . is born in you. You can know all the formulas in the world, but in building you must have an instinct for what will work and what will not."

"Fundamentally, I have found out the secret of handling men is to treat them not as union or non-union, but as men.

"A sure way to turn an enemy into a friend is to ask him to do you a favour.

"This experience [the erection of the Macy Store, New York] taught me two things. One is never to take on a building on the foot-cube basis unless you know the exact specifications. The other is never to go to law about anything. It is cheaper to settle at the start for what you can get."

Building for a Fee.

The method of working adopted by Mr. Starrett is of interest. Wherever possible, he takes on buildings at cost or at a stipulated amount, plus a fixed fee. The latter is usually 8 per cent. Often there is a bonus for early completion and usually some arrangement is made for division of savings made on the estimate. Tendering on the British method appears to be little used in the United States, for other factors than mere price operate, and rightly so, such as the capabilities of the firm, the time for completion and whether architect and builder work well together. There will be few British builders of standing who will not concede that the American method has many advantages. Fuller scope is offered for craftsmanship; cutting down on workmanship is rendered unnecessary as there is no need for the builder to struggle to come out on the right side of a bad contract; not least, a solution is provided to the vexed problem of sub-contracts, for when being paid a fee it is to the builder's advantage to sublet as much as possible of the specialist work in the interest of efficiency and speed.

The result of this course must be a better building, for a better temper prevails, sub-contractors are not squeezed, and a full and generous co-operation between all parties is likely. In fact, one of the largest jobs gained by the Fuller Company during Mr. Starrett's period of control was won because, out of five builders who were interviewed by the clients, his firm had named the highest fee and the lowest percentage of work they would do themselves, the client afterwards saying: "Our idea is that the builder's recompense should be his fee. If he undertakes to do a large proportion of the work himself, he will have no particular incentive to reduce our costs. But if he lets out a large share of the work to sub-contractors he introduces the element of competition all round. . . . We believe that by paying a high fee to the general contractor we shall get a firm who will work in our interests and, as a result, we shall get our building at lower cost."

Naturally, success depends essentially upon the fullest measure of co-operation between architect, builder and client, not only when building starts but, as Mr. Starrett shows, before plans are drawn. This makes it necessary to select the builder at the same time as the architect is chosen. It would also seem to require builders with both the knowledge and the courage to point out to the architect where his design, constructionally speaking, can be improved and—a more difficult matter—to require architects who are sufficiently big to profit by the builder's experience.

The Builder and the Architect.

Paul Starrett, by virtue of his architectural experience with Burnham, possessed that knowledge, nor has he been afraid to use it. In the talks preliminary to the erection in 1925 of the New York Life Insurance building, a member of the building committee asked his opinion of Cass Gilbert's design. That design showed a 40-storey building covering the whole of a 200 ft. by 450 ft. site, a scheme which Gilbert had justified by saying that artificial light in a building was cheaper than daylight. Starrett's opinion was: "He's building a monument to himself but a mausoleum for you fellows." Starrett then proceeded to rough out a new plan showing a building broken up with courts and with set-backs. Gilbert was big enough to accept this as a basis for a new design, and the result was a building which still ranks as one of the most scholarly and efficient of skyscrapers.

This course was by no means an unusual one for Starrett to adopt when asked for his opinion, but then this book reveals him as being an unusual man. Building is in his blood, and organisation with him is a passion. When one finds an alliance of these qualities with enterprise, a scrupulous honesty, humour and, far from least, an understanding of men, one begins to understand how it came about that in his last seventeen years with the Fuller Company, his firm executed over £73,000,000 worth of work and were at one time doing 80 per cent. of all building in New York City.

NEW YORK LIFE INSURANCE COMPANY BUILDING.

THE LATE CASS GILBERT ARCHITECT.

The parting with the Fuller Company came soon after the firm merged with the United States Realty Company, a financial and real estate concern to which the building company was a mere appanage. Starrett found himself, in his own words, "getting farther and farther away from brick and mortar and steel, the things I loved." He joined his brother William and founded the firm of Starrett Brothers and Eken, of which he is still head, and which built the Empire State building.

The chapter in which this step is described is a fitting climax to the book. The story of how the contract for the world's tallest building was obtained, the scheme laid and construction carried through is as exciting as anyone interested even remotely in building could wish to read. There were many factors which are outside the ken of British practice; for instance, the construction of cafeterias on successive floors as the building went up to feed the 3,500 workmen engaged is a problem which no builder is likely to meet in this country. Nor has any architect for a building in Great Britain yet had to make provision in his external stonework to allow for movement due to the sway of the building. In this connection, and in view of the many estimates of the swing of the Empire State building, it may not be without interest to quote Mr. Starrett's statement that the maximum deflection at the top on either side of the perpendicular is 2½ in. This building—1,245 ft. in height to the top of the mooring mast, weighing 308,000 tons and including 67,000 tons of steel, able to accommodate 20,000 persons, and erected in eleven months—Mr. Starrett regards as the climax of his building career. The speed of erection, at one time 1.4 storeys a day, has probably never been surpassed.

It is in the last sentences of the book that we find ourselves for the only time in disagreement with the author. He hazards the belief that the age of really tall buildings has not yet passed, and quotes Burnham's words, "Remember that our sons and grandsons are going to do things that would stagger us."

This very building, the Empire State, which is still "ominously empty," proves the contrary, we think. Such gigantic buildings are the natural products of gigantic confidence and optimism, and we think that after the financial crash of 1929, American enterprise will not soon forget the danger of locking up vast sums of capital in huge buildings for specific purposes, erected on comparatively tiny sites. Henceforth, we imagine, smaller buildings of a more convertible nature will rule. If this is so, the Empire State may well be the last of its type, a permanent monument to a period when "the sky was the limit."

Mr. Starrett's book is one which will be read with profit and delight by the constructional world in this country. It deals with a packed life and with work which has brought its own pleasure, the whole salted with humour and peppered with that pungency of dialogue which is peculiarly American. In the sense that the architectural eyes of the world no longer are focused on the skyscraper, the deeds recorded have become a matter of history almost, but history none the less so nearly part of our time as to make colourful and fascinating this account of a builder who has wrought greatly in shaping raw materials to his will and giving animation to inanimate things.

A NEW FIRE STATION, ALFRED'S WAY, BARKING.

THE MAIN FRONT

Multi-coloured bricks, with cast-stone dressings, have been used for this new fire-station for Barking Corporation, only the central portion being steel-framed, this part comprising the appliance hall and recreation-room. The foundation-stone and carving are the work of Mr. A. Bishop. Generally, the internal walls are fair-faced brickwork, except for the recreation-room, parade-room, and chief officer's suite. The walls of the recreation-room are panelled with plywood sheets fixed to wood battens ; the floors are wood block. A feature of the scheme is the drill tower.

MR. C. C. SHAW, B.ARCH., A.R.I.B.A., BOROUGH ARCHITECT.

A NEW FIRE STATION, ALFRED'S WAY, BARKING.

THE APPLIANCE HALL.

THIS building was recently erected to replace the existing premises in East-street, Barking. The central portion of the building (appliance hall and recreation room) is of steel-frame construction with 14-in. brick panel walls; the remainder of the building is of brick.

With the exception of the houses, the upper floors and flat roofs are of hollow-tile construction. The walls externally are faced with multi-coloured bricks, with cast-stone dressings, and the pitched roofs are covered with pantiles.

Internally, except for the recreation room, parade room and Chief Officer's suite, the walls have been finished with sand-lime bricks, with blue bricks or glazed brick dadoes.

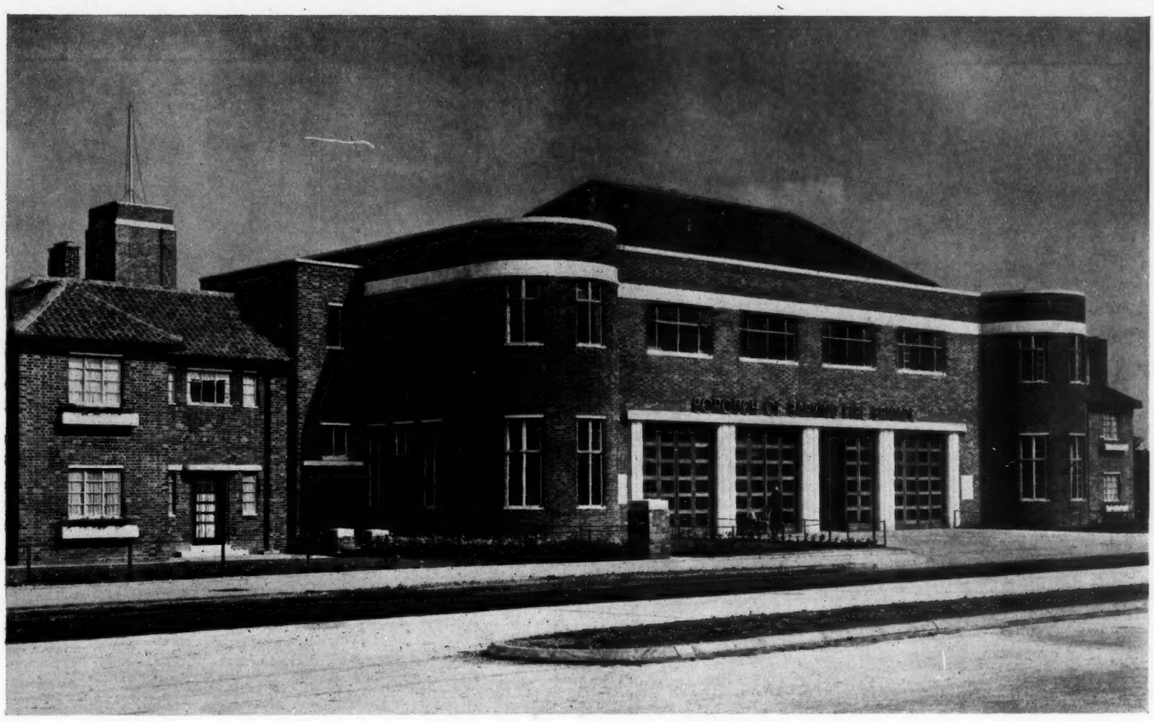
The heating is by means of a low-pressure hot-water installation, hot water to the ground-floor lavatories being supplied by means of a calorifier connected to the heating boiler in winter, and a separate boiler in summer when the heating installation is not required. The cost of the scheme, including the drill tower, was £18,500, and the general contractors were Messrs. Hansard, Ltd., of Great Portland-street, W.1.

The principal sub-contractors and suppliers were: Heating, Comyn Ching and Co. (London), Ltd.; electrical installation, Barking Corporation Electricity Dept.; structural steelwork, Sanders and Forster, Ltd.; metal windows, Standard Metal Window Co.; tiling, Roberts, Adlard and Co., Ltd.; wood block floors, Acmé Flooring and Paving Co. (1904), Ltd.; ironmongery, Yannedis and Co., Ltd.; quick-opening gear, Thomas Try, Ltd.; asphalt, Permanite, Ltd.; facing bricks, Ore (Hastings) Brickfields, Ltd.; sanitary fittings, John Bolding and Sons, Ltd.; ceilings of recreation room and parade room, TenTest Fibre Board Co.

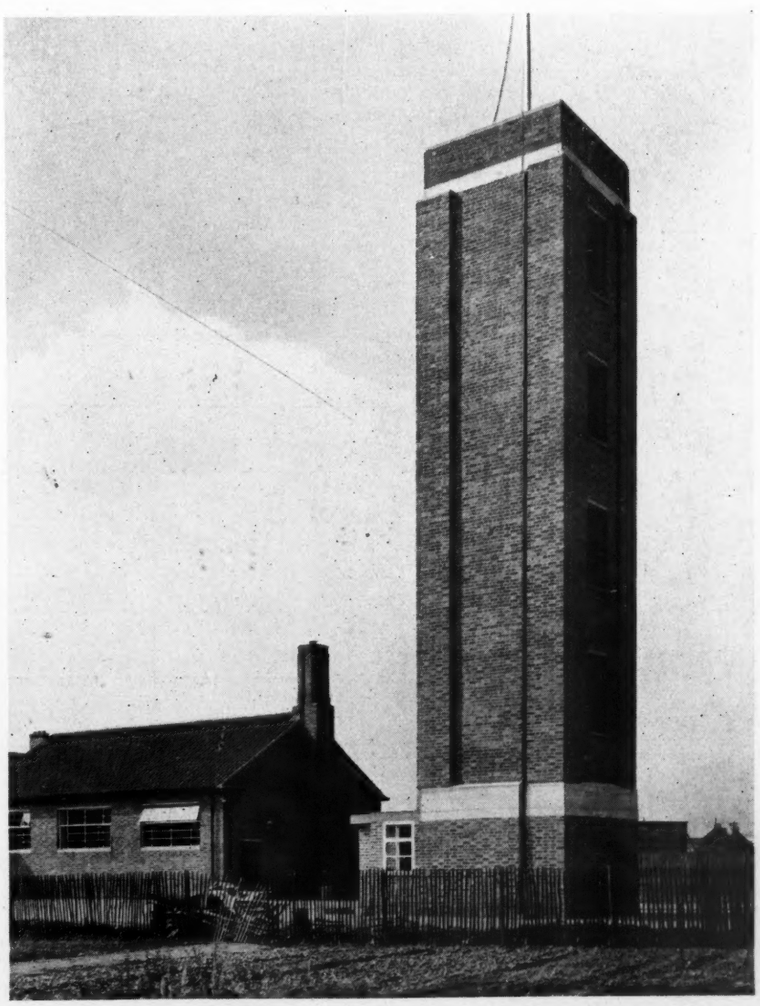
The architect was Mr. C. C. Shaw, B.Arch.(L'pool), A.R.I.B.A., Borough Architect, Mr. M. Maybury, A.R.I.B.A., being chief architectural assistant. Mr. W. E. Kidner, M.I.E.E., the Borough Electrical Engineer, acted as consultant electrical engineer. The quantity surveyors were Messrs. Gardiner and Theobald, and the clerk of works was Mr. F. Harrison.

THE RECREATION ROOM.

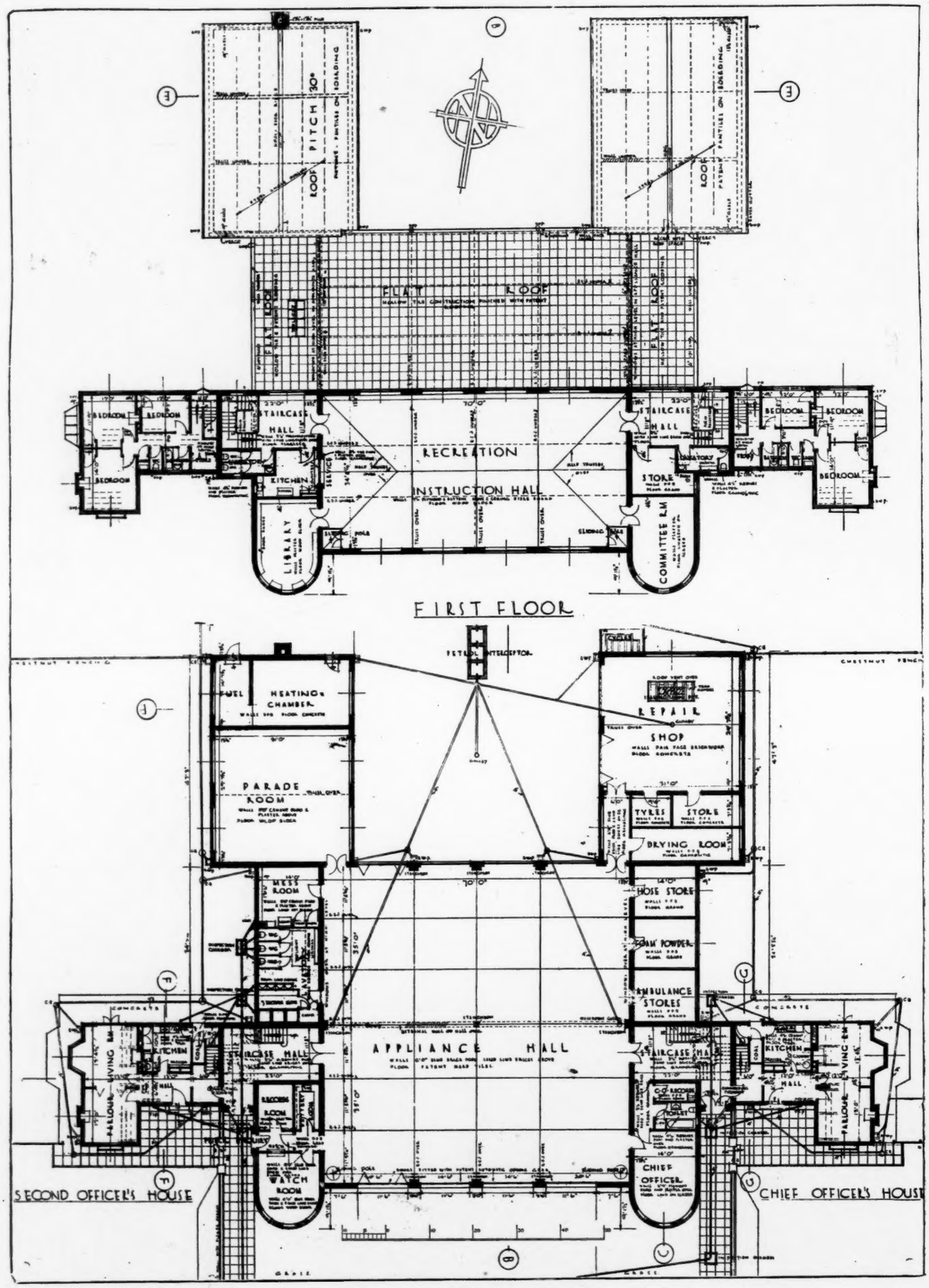
MR. C. C. SHAW, B. ARCH., A.R.I.B.A., BOROUGH ARCHITECT.



GENERAL VIEW OF MAIN FRONT.



VIEW OF DRILL TOWER.



GROUND- AND FIRST-FLOOR PLANS.

A NEW FIRE STATION, ALFRED'S WAY, BARKING.

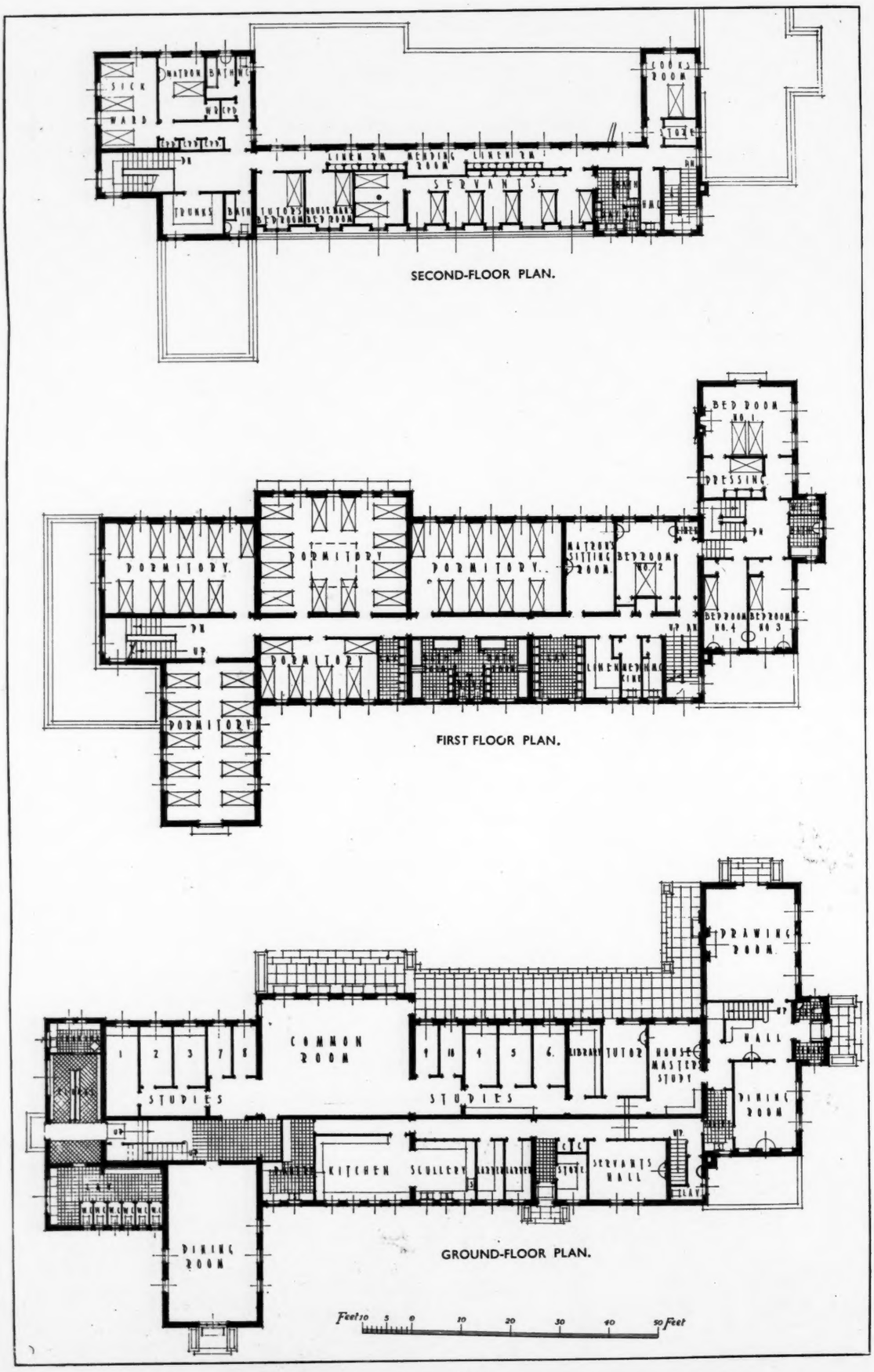
MR. C. C. SHAW, B.ARCH., A.R.I.B.A., BOROUGH ARCHITECT.

"NEW BURTON BANK": ADDITIONS TO MILL HILL SCHOOL, N.

MESSRS. COLLCUTT AND HAMP, F.R.I.B.A., ARCHITECTS.

VIEW FROM WEST, SHOWING THE HOUSEMASTER'S QUARTERS.

THE WEST WING, SHOWING (LEFT) THE HOUSE DINING ROOM AND DORMITORY.



"NEW BURTON BANK": ADDITIONS TO MILL HILL SCHOOL, N.

MESSRS. COLLCUTT AND HAMP, F.R.I.B.A., ARCHITECTS.

THE PRINCIPAL ELEVATION, FACING SOUTH.

Additions have recently been made to Mill Hill School. Under the name of "New Burton Bank," they comprise housemaster's quarters, common-room and studies, dining-room, dormitories and sick-room.

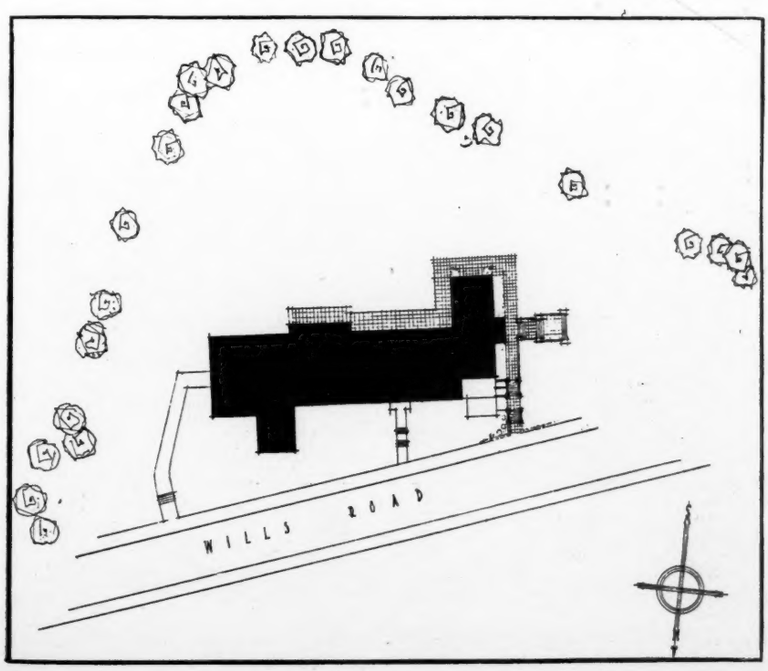
The principal elevation of the building faces south, the west wing containing the housemaster's quarters. The other rooms in the main block on the ground floor are the common-room and studies. The remainder of the rooms on the first-floor are dormitories, and the second-floor addition at the east end contains the sick-room.

The western section, apart from the housemaster's quarters, comprises the house kitchen maids' quarters with house bathrooms, etc., on the floors above. At the east end the projecting wing comprises on the ground-floor the house dining-room, and on the first-floor the boys' dormitory.

The main entrance to the housemaster's quarters is exclusively used by the housemaster, the ground-floor containing sitting-room and dining-room. The first-floor comprises the housemaster's bedroom accommodation.

The buildings are in brick with a steel frame. Dressings are in Portland stone. Carving has been sparingly employed, the carver being Mr. P. J. Bentham

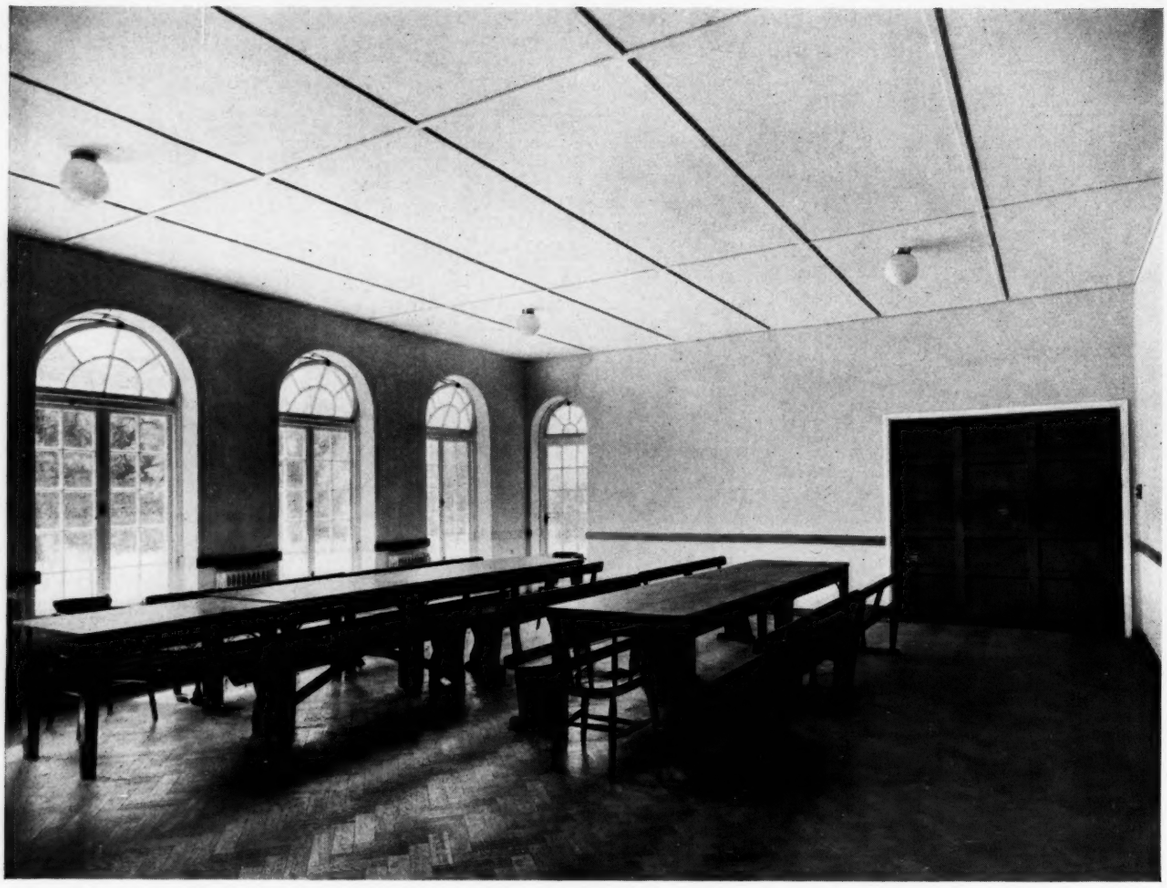
The general contractors were : Messrs. G. Godson and Sons, of London ; and sub-contractors were : Cast stone, Cowley Concrete Co., Abingdon ; Portland stone, Frank Mortimer, Ltd. ; heating, G. N. Haden and Sons, Ltd., Trowbridge ; steelwork, Dawnays, Ltd.; electrical installation, Duncan Watson, Ltd. ; sanitary fittings, Doulton and Co., Ltd., and George Jennings, Ltd. ; wood block flooring, Hollis Bros., Ltd. ; hollow-tile floors, Helical Bar and Engineering Co., Ltd. ; asphalt, Limmer and Trinidad Lake Asphalt Co. ; doors, Merchant Trading Co., Ltd. ; railings, Adrian Stokes and Co., Ltd. ; ironmongery, Yannedis and Co., Ltd. ; cooking fittings, Benham and Sons, Ltd.



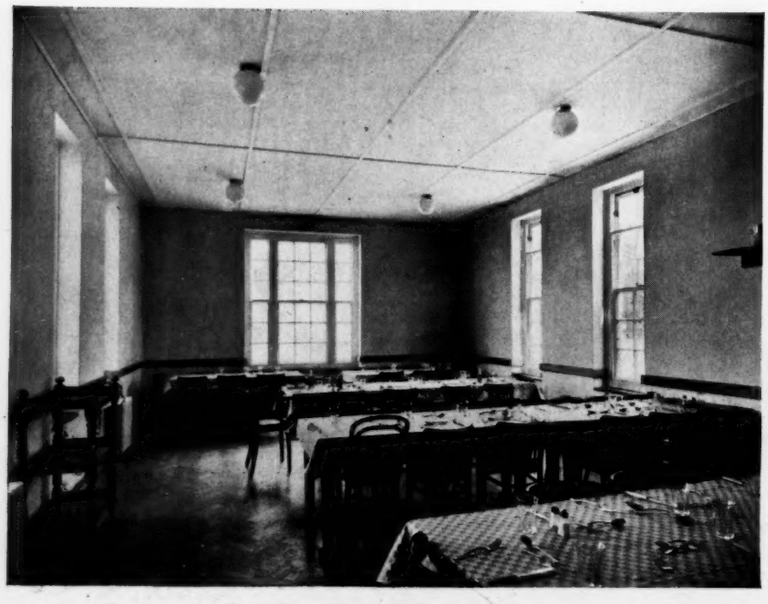
On left : THE BLOCK PLAN.

"NEW BURTON BANK" : ADDITIONS TO MILL HILL SCHOOL, N.

MESSRS. COLLCUTT AND HAMP, F.R.I.B.A., ARCHITECTS.



THE HOUSE COMMON ROOM.



On left : THE HOUSE DINING-ROOM.

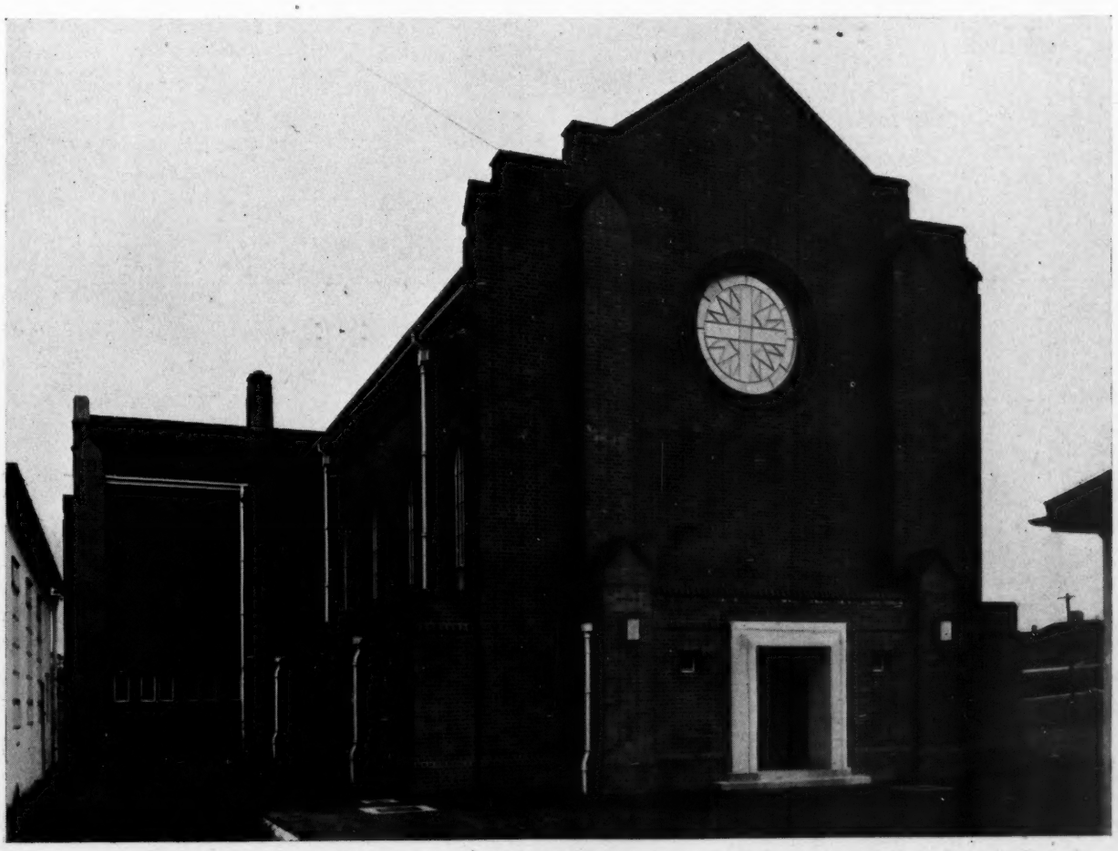
"NEW BURTON BANK": ADDITIONS TO MILL HILL SCHOOL, N.

MESSRS. COLLCUTT & HAMP, F.R.I.B.A., ARCHITECTS

CHURCH OF ST. BARNABAS, KNOWLE, BRISTOL.

MR. C. F. W. DENING, R.W.A., F.R.I.B.A., ARCHITECT.

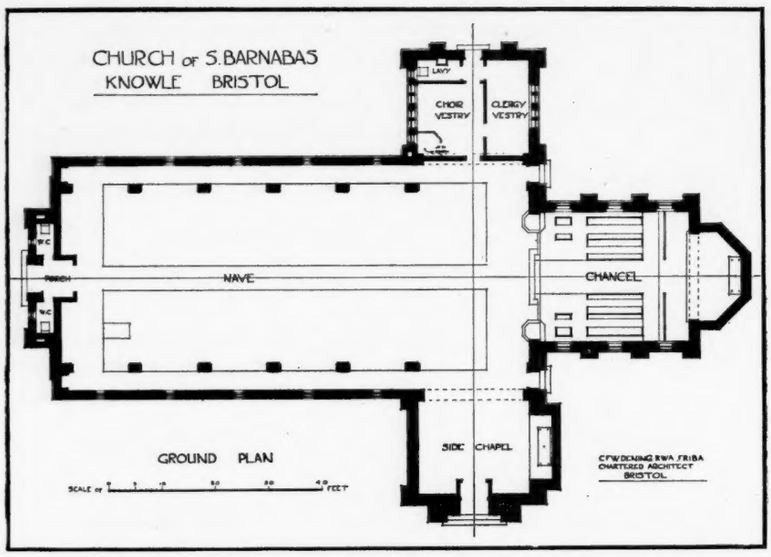
THE SOUTH ELEVATION.



THE WEST FRONT.

CHURCH OF ST. BARNABAS, KNOWLE, BRISTOL.

MR. C. F. W. DENING, R.W.A., F.R.I.B.A., ARCHITECT.



THE PLAN.

The church of St. Barnabas, Knowle, Bristol, has recently been completed to plans by Mr. C. F. W. Dening, R.W.A., F.R.I.B.A., and was dedicated in June last.

The south transept is on an axial line with the centre of Daventry-square, Knowle, which is one of the Bristol housing estates. The church was built under the Bishop's Church Extension Fund.

The building is in Monmouthshire bricks, tiled with dun coloured Roman tiles. To the east of the church is the vicarage, and to the west the institute. Worthy of notice is the Bell *motif* on gates and the rails to the chancel and organ loft. External gates and doors are in brilliant green.

The church, which seats 500, cost £11,500. Internally, pews and choir stalls are in oak, the interior joinery otherwise being in pine. The walking ways are in grey "Korkoid" with blue diamonds. The ceiling is in "Insulite" board, coloured pale blue.

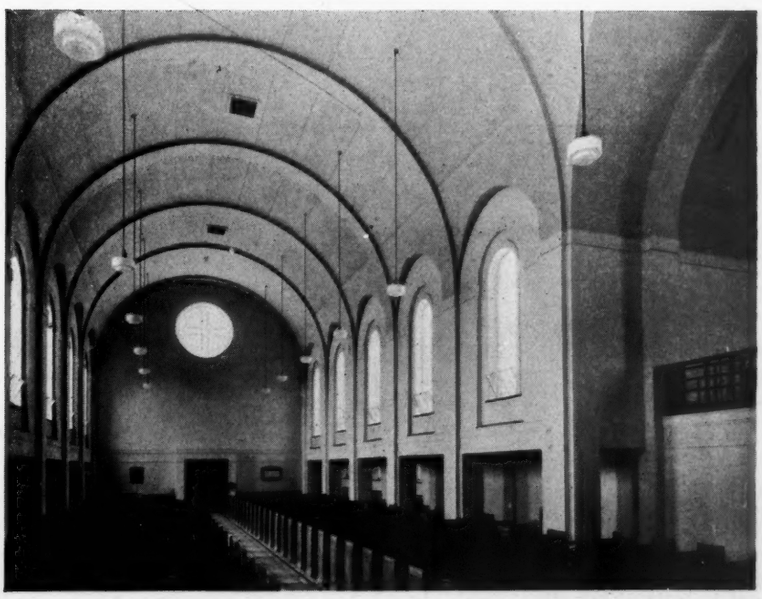
The hanging to the High Altar is in quilted silk, the tones being fawn and crimson. The font is the gift of Holy Trinity Church, St. Philip's, Bristol.

The general contractors were Messrs. Spackman and Son, of Swindon, and sub-contractors included: Electric lighting, Colston Electrical Co., Bristol; and heating, Scull and Co., Bristol.

THE ENTRANCE GATES.

THE FONT.

THE NAVE, LOOKING SOUTH-EAST.



On right : THE NAVE, LOOKING WEST.

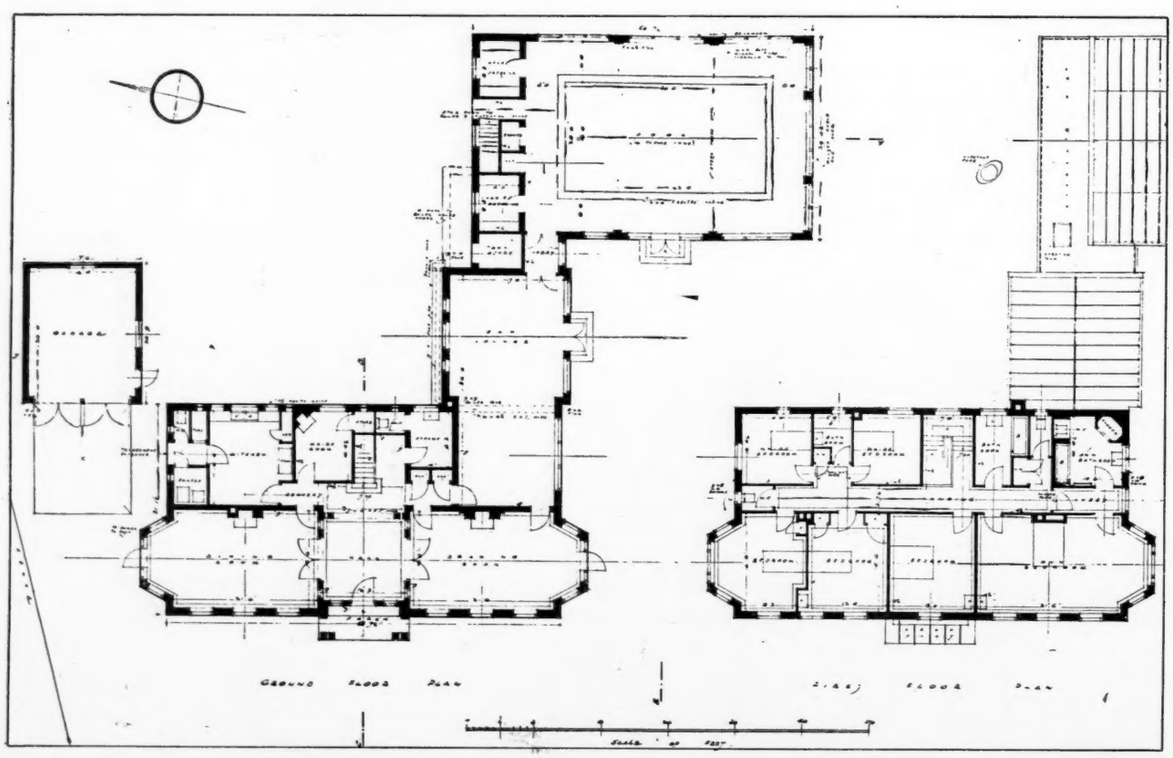
CHURCH OF ST. BARNABAS, KNOWLE, BRISTOL.

MR. C. F. W. DENING, R.W.A., F.R.I.B.A., ARCHITECT.

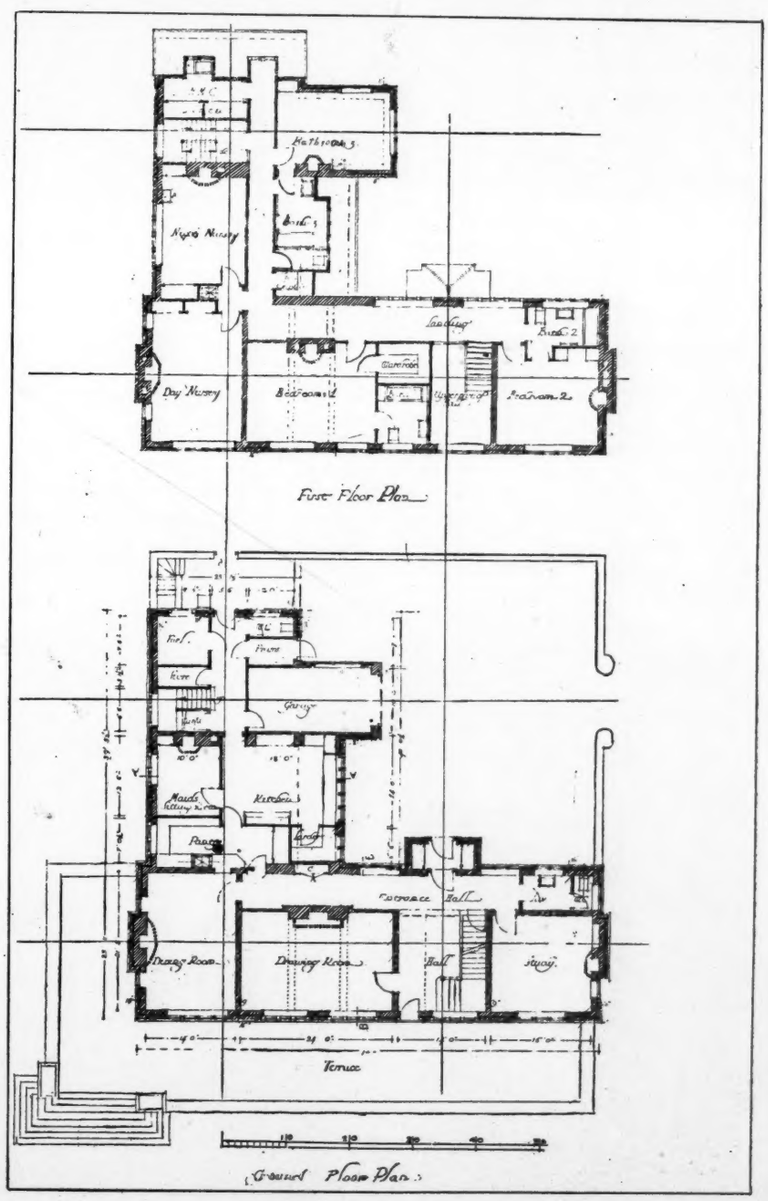
"MAPLEWOOD," BEECH DRIVE, KINGSWOOD, SURREY.

MR. F. R. FISHER, L.R.I.B.A., ARCHITECT.

THE ENTRANCE FRONT, SHOWING (ON RIGHT) THE SWIMMING POOL.



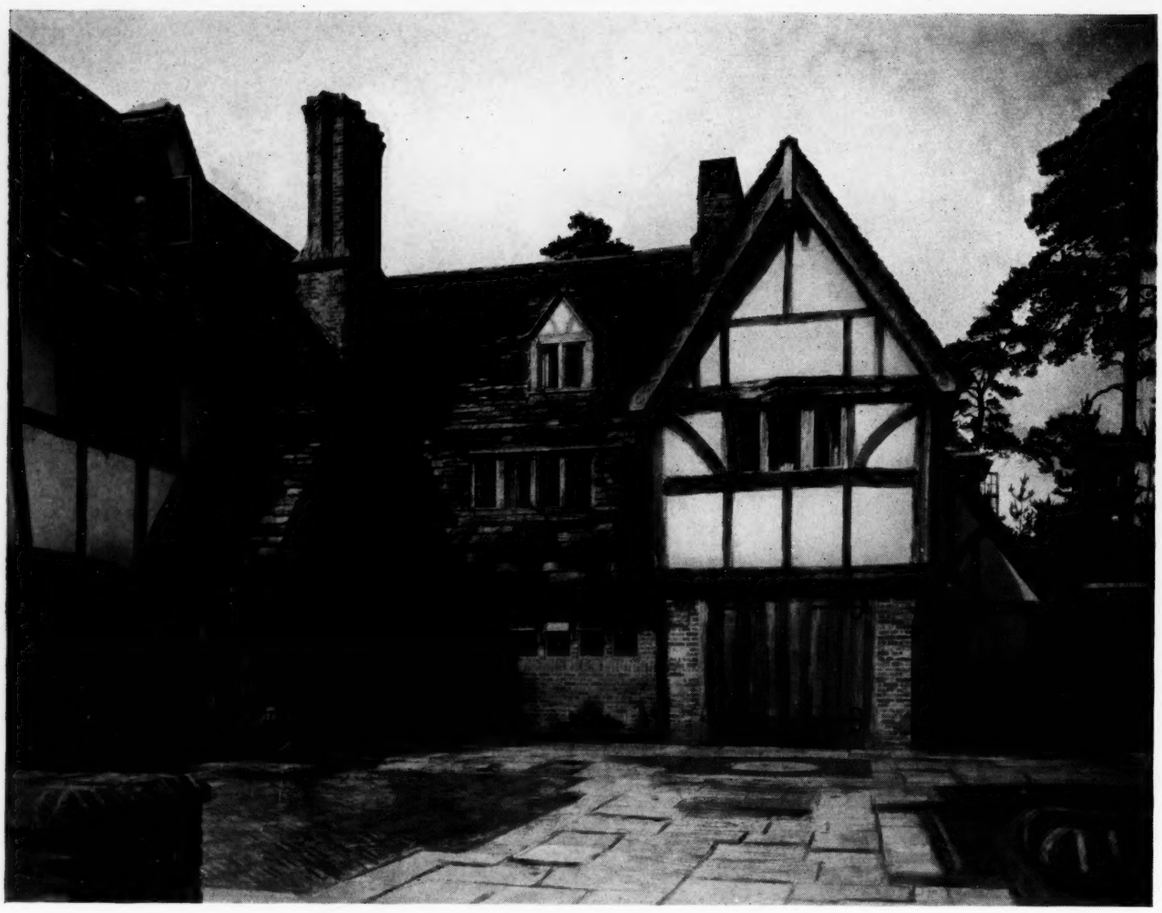
The planning of the actual house is strictly balanced, a feature of the ground-floor being the entrance-hall, drawing-room and dining-room which are axially planned and can in effect be made into one long reception room by opening the large double glazed doors to the hall. Within easy reach of the hall and kitchen service is a large sun lounge, which in turn is connected with a totally enclosed swimming pool. A large garage adjoins, and is well set back from the east side of the house. The house is constructed with 11-in. external cavity walls faced with Ibstock facing bricks, and the roof is covered with russet brown hand-made tiles. The swimming pool, which is constructed in reinforced concrete, is roofed entirely in glass supported on steel trusses and steel-framed stanchions enclosed in light brick piers to allow of maximum window space, and both the pool and dressing-rooms are centrally heated. The pool water is also heated and filtered from a combined heating and filtration plant located in a basement at the deep end of the pool. The house was built by Messrs. Richard Costain, Ltd., and the swimming pool and sun lounge by Messrs. Austin Keates, Ltd, under separate contracts. The pool is 30 ft. long.



Above : THE ENTRANCE FRONT.
Right : THE PLANS.

"THE DOONE," ST. GEORGE'S HILL, COBHAM, SURREY.

MR. HUBERT LIDBETTER, F.R.I.B.A. (WARREN AND LIDBETTER), ARCHITECT.



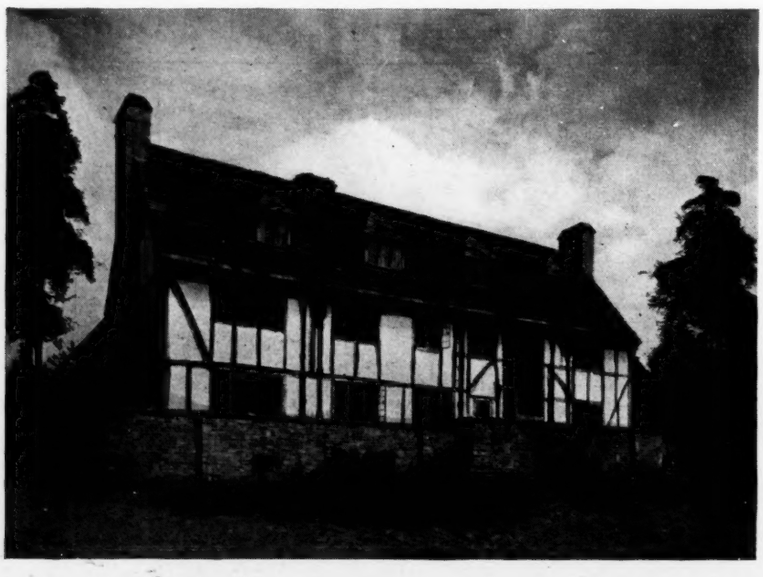
DETAIL OF ENTRANCE COURTYARD.

This house was built for Mr. and Mrs. Doresa, of old materials as far as possible, at their special request.

All the facing bricks and half-timbering are old material taken from old buildings, and the roof is covered with old Cotswold stone slates. The paving stones are also old.

The house stands on a thickly wooded knoll, adjoining the golf course. The general contractor was Mr. R. O. Garrard, of West Byfleet. The windows were by Humphries, Jackson and Ambler, Ltd. ; heating was by Jackson and Co., Ltd. ; lighting by Buchanan and Curwen, Ltd.

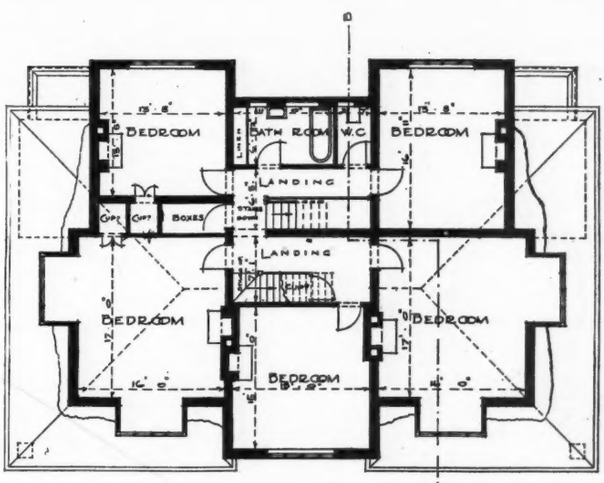
The architect was Mr. Hubert Lidbetter, F.R.I.B.A. (Warren and Lidbetter).



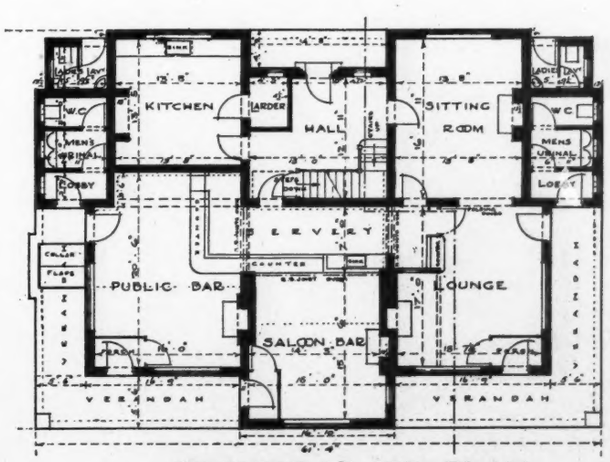
On Left : THE GARDEN FRONT.

"THE DOONE," ST. GEORGE'S HILL, COBHAM, SURREY.

MR. HUBERT LIDBETTER, F.R.I.B.A. (WARREN AND LIDBETTER), ARCHITECT.



FIRST · FLOOR · PLAN.



GROUND · FLOOR · PLAN

Above : THE MAIN FRONT.

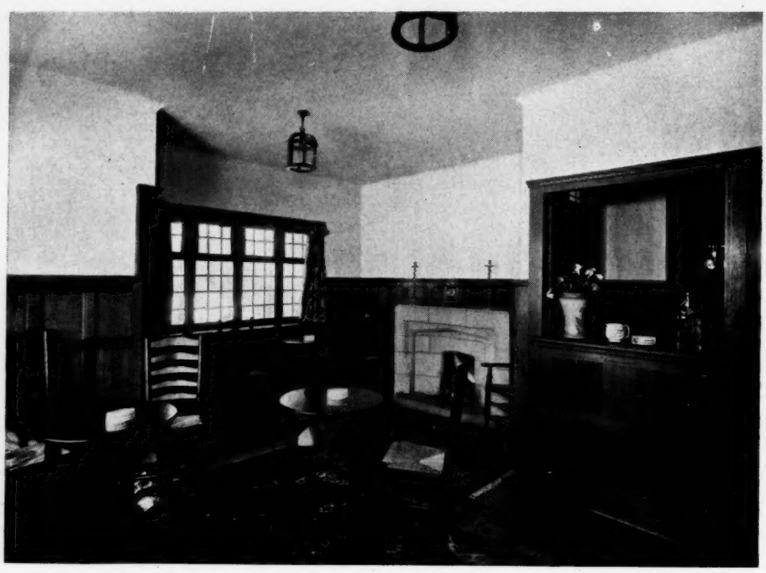
Right : THE PLANS.

THE "WOOLPACK" INN, SMEETH, NEAR ASHFORD, KENT.

MR. E. G. WILDIN, L.R.I.B.A., ARCHITECT.

THE "WOOLPACK" INN, SMEETH, NEAR ASHFORD, KENT.

MR. E. G. WILDIN, L.R.I.B.A., ARCHITECT.



THE LOUNGE.

"THE Woolpack Inn," Smeeth, is a new licensed house about one mile from the main London to Folkestone road, mid-way between Hythe and Ashford, Kent. This house is a replacement of a famous old smugglers' inn, and was designed by Mr. E. G. Wildin, L.R.I.B.A., architect to Messrs. Mackeson and Co., Ltd., The Brewery, Hythe, Kent.

The old style has been kept in the new inn, the bars being panelled in oak and the fireplaces being of artificial stone. Externally, the house is constructed of multi-coloured 2-in. bricks, and has a steeply pitched roof of old tiles, with verandahs on three sides and dormer windows in the roof. All the external woodwork is in oak, and steel casements with leaded lights form the windows. A large car park has been made at the corner of the site, and the gardens are laid out with lawns and flower beds.

The general contractors were Messrs. C. I. Epps and Sons, Ltd., of Ashford, Kent, who were also responsible for the whole of the counters, cabinets, panelling, etc., and the following is a list of the sub-contractors:—

Carter and Co., Ltd., glazed and floor tiling; James Clark and Son, Ltd., of Canterbury, leaded lights, signs, etc.; The Almarco Metal Window Co., steel casements; A. Olby, Ltd., sanitary fittings, fireplaces, etc.; Colledge and Bridgen, Ltd., ironmongery; C. E. White and Co., Ltd., beer engines, pewter, etc.; Sclater and Son, electrical installation; Art Pavements and Decorations, Ltd., terrazzo work; Val de Travers Asphalte Paving Co., Ltd., asphalt work; S. and E. Collier, Ltd., facing and moulded bricks; Harrison and Sons (Maidstone), Ltd., gardens; and Wingham Engineering Co., Ltd., tar paving.

THE PUBLIC BAR.

THE BUILDING EXHIBITION, OLYMPIA.

THE OPENING CEREMONY

At 4 o'clock this afternoon (Friday) Sir Philip Sassoon, M.P. (First Commissioner of Works), will open the 21st biennial Building Exhibition at Olympia. Mr. Goodhart-Rendel, P.R.I.B.A., will take the chair, and Alderman W. H. Birch and Mr. George Hicks, M.P., will propose and second respectively the vote of thanks to the First Commissioner.

The distinguished company present will include:—

Major A. N. Braithwaite, M.P.; Sir John Brown, K.C.B., F.R.I.B.A.; Sir Hal Colebatch, C.M.G., Agent-General, Western Australia; the Rt. Hon. Ewart G. Culpin, Chairman, L.C.C.; Mr. R. Coppock, Secretary, National Federation of Building Trades Operatives; Sir Kenneth Clark, Director, National Gallery; Mr. A. H. B. Colls; Sir Lionel Earle, G.C.V.O.; Dr. Joan Mary Fry, Friends Allotment Gardens; Sir Malcolm Fraser, Bart.; Sir Banister Fletcher, P.P.R.I.B.A.; the Hon. Claude James, Agent-General for Tasmania; Alderman W. T. Kelly, M.P.; Commissioner David Lamb; the Hon. Mrs. Alfred Lyttleton, G.B.E.; Sir William Prescott, Bart., Chairman, Metropolitan Water Board; the Lady Pentland; Dr. Sidney Peters, M.P., Parliamentary Private Secretary to the Minister of Labour; the Hon. Humphrey Pakington, F.R.I.B.A.; Sir Reginald Rowe; the Lord Glamis; Major-General Sir Fabian Ware, K.C.V.O.; Mr. David E. Roberts, President, Institution of Mechanical Engineers; Mr. Arnold Silcock, F.R.I.B.A., Bursar, Architectural Assoc.; Mr. G. R. Holland, President, London Master Builders' Assoc.; Mr. W. H. Forsdike, President, Institute of Builders; Mr. J. E. Swindlehurst, President, Institute of Highway Engineers; Mr. E. Gwynne Vevers, President, Institute of Clayworkers; Lieut.-Col. H. S. Rogers, President, Institution of Structural Engineers; Sir Ian MacAlister and Lady MacAlister; and Sir James West, F.R.I.B.A.

FILMS AT THE EXHIBITION.

Below is a list of the films which are included in the programme which is being shown in the cinema in the Gallery at Olympia. The performance is continuous and admission free.

"The Film of the Natural Asphalte Council"; "Kensal House" (the Gas Light and Coke Company); "The Film of Paint" (Lead Industries Development Council); "Queering the Pitch" (The Limmer and Trinidad Lake Asphalt Co., Ltd.); "Big Timber" (Canadian Government Exhibitions Commission); "The Making of Bricks" (London Brick Co., Ltd.); and "Zinc Roofing" (Zinc Development Association, Ltd.). The programme is arranged and presented by Building Industries Services, Ltd.

BUILDING RESEARCH

An interesting display should be the exhibit of the Department of Scientific and Industrial Research in the Gallery.

Some of the most recent research work on subjects of interest to those engaged in the building and allied industries will be illustrated by working demonstrations, models, and cinematograph films. The exhibits represent some of the more important current investigations in the laboratories of the Building Research Station, Watford; the Forest Products Research Laboratory, Princes Risborough; the National Physical Laboratory, Teddington; the British Non-ferrous Metals Research Association, London; and the Paint Research Station of the Research Association of British Paint, Colour and Varnish Manufacturers, Teddington. While it is not possible to cover all the building problems on which the department is engaged, the exhibit is of a most comprehensive character, and each item, while not necessarily embracing the whole field of work done on the particular problem, will most certainly assist in the solution of some of the difficulties confronting the builder. The usefulness of the exhibit will be enhanced by an informative pamphlet which will be given away free to visitors, by the help and advice of the research workers, some of whom will be in attendance on the stand, and by the literature which will be available for reference and purchase.

Rendered Finishes.

Rendered finishes constitute one of the most troublesome problems in building work and the difficulties experienced may be such as affect either the protective or the decorative value of the work or both. Cracking and crazing are defects serious from both points of view, since they allow penetration of moisture and also constitute blemishes of the finished work. A survey has recently been made of the methods and materials used in rendering work on the Continent, where renderings are more widely used and, apparently, more uniformly reliable. The exhibits illustrate some of these materials and methods; and the details given should be sufficient to enable architects and builders to try some of these alternatives for themselves. In the past the aim in this country has generally been to produce as smooth a surface as possible under the impression that by affording no lodgment for dirt and by encouraging washing by rain such a surface would keep clean. The effort to obtain a satisfactory finish in this way has proved a failure. The building research station recommends a rough-textured finish, and gives its reasons in the exhibit and in the pamphlet.

Another part of the exhibit will illustrate the use of cement spatterdash for producing a key on concrete surfaces. An alternative, and much cheaper alternative to the present method of hacking, consists in applying a thin coat of cement mixed with gritty sand in a mix of semi-liquid consistence, which must be flung on vigorously from a trowel in the thinnest possible coat and left rough.

Cleaning Limestone Buildings.

Turning now from new buildings to old, the building research station, in collaboration with the Office of Works, has demonstrated that dirty limestone buildings can be cleaned by the continued application of a fine spray of water. The novelty of the method lies not in the use of a fine spray, but in the manner of its use. The principle, analogous to that involved in stripping wallpaper by hand, where thorough soaking reduces the labour to a minimum, is to apply the water for as long as is necessary to soften and remove the deposits. The results, which compare favourably with those obtained by other methods, are obtained without any mechanical assistance other than that provided by light brushing, and even that can be dispensed with if desired. The principles of the method will be demonstrated by a working exhibit, and its effectiveness shown by specimens of stone cleaned in this way. Actual proof of the effectiveness of the method was given in *The Builder* for August 12 last, when the Adam Screen at the Admiralty was illustrated as recently cleaned by the method referred to.

Wind Pressure on Buildings.

While considering buildings as a whole, mention should be made of the work of the National Physical Laboratory on the pressure of wind on buildings. There are two types of building which cannot be economically designed unless the wind forces on it can be estimated. In high buildings these forces are large and the bracing necessary to resist them is expensive so that it is important that they should be carefully designed. In light buildings, such as single-storey factories, the wind forces are often the largest part of the load which the frame has to withstand. A model of a familiar part of London at a junction of Aldwych and the Strand, which has been used for investigating the shielding of a building by others near it, will be exhibited. The experiments were carried out at Teddington inside a large wind tunnel, measuring 14 ft. wide by 7 ft. high. The visitor will be able to perform a similar experiment for himself with a small wind tunnel; tubes of liquid will indicate the effect of the wind on a model of a building, and it will be seen that in this

THE I.A.A.S. RECEPTION ROOM, OLYMPIA.
DESIGNED BY MR. E. DANIEL HOFMANN, L.M.I.A.A.

simple experiment there is a pressure on the windward side of the building and a suction on the opposite side.

DAMPNESS.—Dampness plays an important part in many of the troubles experienced in buildings. This is referred to in the exhibit on rendered finishes, and there will also be a number of other exhibits devised to illustrate the troubles associated with dampness and the best means of overcoming them. The exhibits cover some of the work done at the Building Research Station, the Forest Products Research Laboratory, and the Paint Research Station. An instrument which has been developed for assessing the dampness of walls and floors will be shown, and the tests carried out with it for ascertaining water penetration will be explained. One of the troubles caused by dampness concerns failures due to alkaline attack and to lack of adhesion, such as blistering, peeling and flaking of plastered finishes which are often associated with incomplete drying of the plaster and its backing.

In woodwork also the primary cause of decay is dampness, rendering the wood liable to the attack of the fungi which bring about dry rot. Suggestions as to the best methods of construction to avoid this trouble will be shown by means of models, and an adjacent exhibit will give some useful information on the preservation of timber, epitomising the work of the Forest Products Research Laboratory on the subject. It is essential that the preservative should be applied in such a manner as to impregnate completely the outer layers of timbers to a depth of about 1 in. The usual method is to subject the timber to a vacuum, followed by pressure application of the preservative in a closed cylinder, a method which is adopted for all the railway sleepers in the country. For the small consumer of timber excellent impregnation can be obtained in certain species by using the open tank hot and cold process, which consists of submerging the timber in a tank of preservative, which is then heated to a temperature of about 82 deg. C. The whole is allowed to cool down, and during the cooling period, liquid is drawn into the wood, effecting the desired impregnation. Fence posts may have their butt ends treated in this manner by standing them upright in a drum containing the preservative, which is heated by means of a fire underneath. A model of a portable open tank plant suitable for the use of individual builders and estate managers, will be on view and the exhibit will show the importance of the depth of penetration on the durability of treated timber.

For joinery timber, great importance is attached to the necessity for an efficient priming coat. In the exhibition, model window- and door-frames will show the ability of correct priming to prevent defects on the paintwork resulting from early exposure to wet conditions and the advisability of adequately priming the end-grain of framework in contact with damp cement or bricks in order to prevent the up-take of water. The height to which moisture absorbed by the end-grain can rise in woodwork will be demonstrated by a separate exhibit.

Sound, Light, and Heat.

Measurements made by the National Physical Laboratory of sound transmission between adjoining rooms have shown that in addition to the direct sound transmission which takes place through the intervening partition, indirect transmission occurs along the flanking walls and floors. The phenomenon will be demonstrated by a " ripple tank " which comprises a model, consisting of three-room sections constructed with light metal walls, standing in a tank containing water. Ripples are generated in the middle room which represents a room containing a source of noise, and are transmitted through and along the metal walls to the adjoining rooms much as sound is transmitted in an actual building.

In the last few years there has been considerable interest in the construction of floors which will reduce the transmission of noise arising from impacts, such as footsteps. The National Physical Laboratory, in conjunction with the Building Research Station, has made an extensive series of measurements of the insulation provided by floors. Specimens of some of the floor constructions which have been found to be effective will be exhibited. They are all of the floating floor type in which a wood raft or concrete slab is supported above the structural floor upon layers or pads of insulating materials, such as rubber, glass-silk quilt, slag-wool quilt or cabot quilt.

Another exhibit showing the efforts which are being made to reduce the amount of noise in houses is concerned with the sound transmitted along water pipes, an important problem in large buildings, particularly in blocks of flats. Noise made in the boiler-house, for example, by stoking or by circulating pumps, can be transmitted to radiators and cause noise in rooms some distance away. Similarly the noise of hissing taps or ball-cocks can often be heard in distant rooms. Experiments at the National Physical Laboratory have proved that this transmission can be reduced by placing a piece of rubber hose in the pipe line. Visitors to the Exhibition will be able to compare this effect by turning on taps and listening through stethoscopes to the noises produced. Another pipe connected directly to a hissing tap is fixed to a panel by rubber-lined saddle clips; the sound conducted to the panel is considerably reduced by the use of the clips.

The lighting of the interior of buildings will be the subject of a number of exhibits, the first of which is an apparatus devised by the National Physical Laboratory for finding the lowest value of daylight illumination with which a typist will be satisfied. The apparatus, which the visitor will be able to operate, records the time and the amount of daylight at the moment when the electric light is switched on.

An interesting point will be brought out in one of the Building Research Station's exhibits —namely, that in designing a building, light received from the sky is of much greater importance than direct sunlight, which is strongly directional in character. The exhibits in this section will illustrate points in factory design, the correct design of dwellings with balconies and the best methods of cleaning dirty glass in the roof-glazing of large buildings.

The Paint Research Station are providing an exhibit which will demonstrate the reduction in illumination in a room due to dirty paintwork.

Of equal importance to the adequate lighting of a room is the heating arrangement, and it will be shown by an exhibit from the Forest Products Research Laboratory that by using a ¾-in. wood lining in a room with a 1-in. air space behind the loss of heat through the walls can be reduced by 30 per cent. By reducing the heat lost in this way the amount of fuel required for heating will be correspondingly reduced.

An exhibit closely allied to this concerns the prevention of smoky chimneys. Nearly 150 years ago Count Rumford, one of the outstanding men in research in the physical sciences, published an essay containing recommendations on the design of fireplaces to avoid this trouble, which then, as it is to-day, must have been a constant source of annoyance. It has been found that Count Rumford's recommendations can be equally well applied to modern conditions. The application of the principles, which will be illustrated in the Exhibition, is concerned only with fireplace design, and if a chimney is of the smoky variety the fireplace can be altered at a relatively small cost. An abstract of Rumford's essay was given in *The Builder* for July 23, 1937.

PLUMBING.—In addition to the exhibit on the reduction of noise in water pipes, there are a number of others which should greatly assist the plumber in his work and which will relieve the purchaser of a new house of some of his subsequent troubles. One of these troubles is due to what is known as deposit attack in tanks and pipes, caused generally by such things as filings, scraps of packing material, plaster or rubble. The deposit sets up corrosion, which has been investigated by the British Non-Ferrous Metals Research Association. The exhibit will show its effect and how it can be avoided. It is important that galvanised tanks and pipes should have an adequate thickness of zinc coating, a point which will be brought out in one of the exhibits, which will include a simple apparatus for determining the thickness of the coating.

Another of the exhibits, which the visitor will operate for himself, has been constructed to illustrate that a column of cold mains water, if entrapped by a non-return valve in a length of water supply pipe, will exert considerable pressure in the pipe and eventually cause it to burst by the expansion of the water due to a rise in temperature caused, for example, by a warm building or a neighbouring hot-water pipe. In such cases, if the effect cannot be avoided, the remedy is to fit a device which will allow the expansion of the entrapped water to be accommodated.

TIMBER.—The Forest Products Research Laboratory will show the results of some of the work which they are doing at Princes Risborough. One or two of these have been described. The others include the seasoning of timber, wood cutting, in which the investigations undertaken by the laboratory to explore methods of improving the efficiency of all classes of woodworking operations are illustrated, and the strength of structural timber.

Air seasoning, one of the common methods of preparing timber for use, is quite satisfactory, but it is slow, and the amount of drying that occurs is insufficient to make the timber fit for many interior uses. Kiln drying has many advantages, and the exhibit will show, by means of a model, a form of highly successful type of kiln. The method of determining the moisture content will be shown, and there will be on view a working apparatus to demonstrate how the moisture content of timber varies under changing air states.

The revised regulations of the London County Council governing the use of timber in buildings permit a bending stress of 800 lb. per sq. in. in ungraded timber approved by the building inspector. An exhibit has been arranged which will show what are likely to be the limiting values of the defects in such a timber.

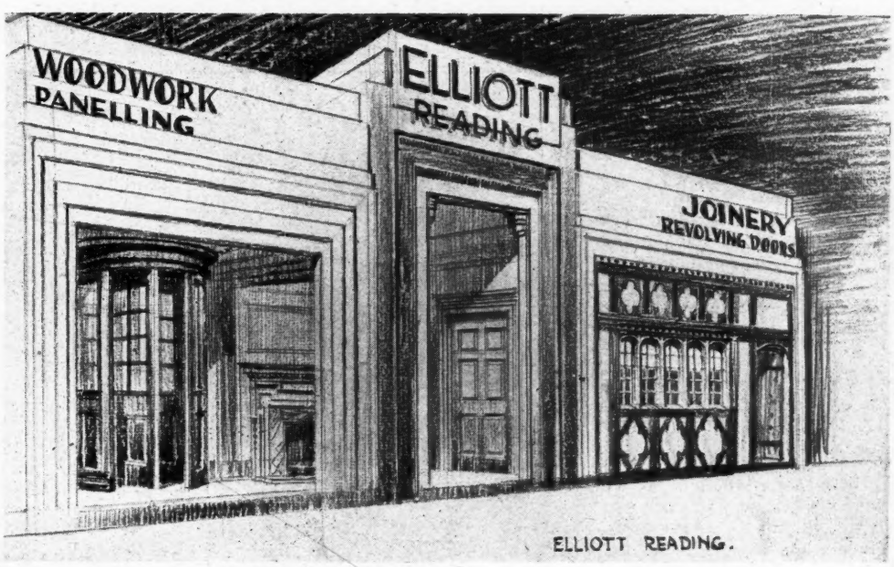
OTHER EXHIBITS.—The comprehensive nature of the Department's exhibit and the wide scope of its activities will be apparent from a study of the exhibits. Those not already mentioned include an apparatus for compacting mortar cubes by vibration, in order to test the strength of cements for concrete; a model to illustrate reinforced brick masonry; a model of a highway bridge showing the method of testing and the instruments employed; an exhibit representing the work on fire resistance testing; and the prevention of corrosion on the inside of lead-sheathed glazing bars.

REVIEW OF EXHIBITS—II.

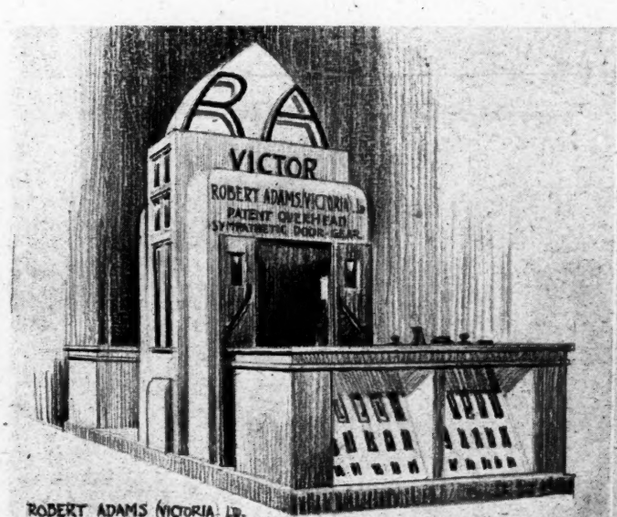
THE display of architectural and building materials and plant which will greet the visitor to Olympia to-day and throughout the Exhibition (which closes on Saturday, October 1) will be the most comprehensive and advanced in character yet offered, over 400 firms having taken space.

A complete list of exhibitors and the official plan of Olympia were given in our last issue, in which also we commenced an illustrated sectionised review of the major displays to be seen, and this is now continued. Elsewhere in this issue will be found drawings by Mr. A. C. Fare, R.W.A., of a number of the more important exhibits. These have been specially drawn at Olympia for *The Builder*.

HENRY HOPE'S METAL WINDOWS.



ELLIOTT READING.



ROBERT ADAMS (VICTORIA) LD.

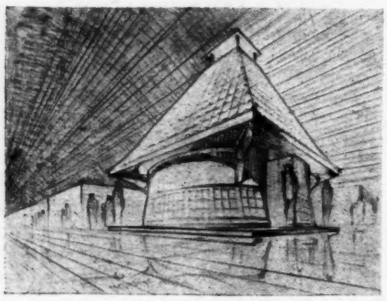
SOME STANDS AT THE BUILDING EXHIBITION.

SPECIALLY DRAWN BY A. C. FARE, R.W.A.

BRICKS AND ROOFING MATERIALS.

The full range of "Red Hand" roofings are again displayed on the stand of D. ANDERSON AND SON, LTD., No. 151, Row G. They include "Rok" roofing, "Dason" roofing, and "Flextile" roofing, which has a surface of crushed minerals embedded in the coating. Another feature of this stand is the construction showing the use of various flat roof systems and flat roof coverings, and particular display is given to "Besdek" roofing, which can be used for flat or sloping roofs and which consists of a built-up asbestos roof deck strengthened by the use of reinforcing steel rods. Waterproofing of the roof may be carried out by one of the Anderson systems, such as "Thermotile," "Macasfelt," or "Durok." "Flextile" shingles, made in strips 36 in. by 10 in., giving the appearance of slates or tiles when laid, are also shown; they are specially suitable for sports pavilions or bungalows.

LANGLEY, LONDON, LTD., show on Stand 310, Row R, a comprehensive range of clay roofing tiles and sister products. Some of the models displayed and their features include: (1) Langley's C.D.N. clay roofing tiles, of which the colour range runs from the commercial natural red and antique smooth faced tiles through a choice of sand-faced shades to matt green and to a dozen or more glazed colours; (2) Pantiles, which are supplied in substantially the same range of colours and finishes as tiles; (3) "Cloister" roofing tiles, described as being bolder still in form, and giving a definite "ridge and furrow" effect on the roof; (4) "Beauvais" roofing tiles, said to be particularly favoured in the North of England. They are fired at a temperature of 2,000 deg. Fahr., which, it is claimed, renders them as hard as stone; (5) window cill tiles, an attractive addition to the Langley range. Two models are supplied, one for interior and the other for exterior use.



STAND FOR LANGLEY, LONDON, LTD.
DESIGNED BY MR. J. P. TINGAY

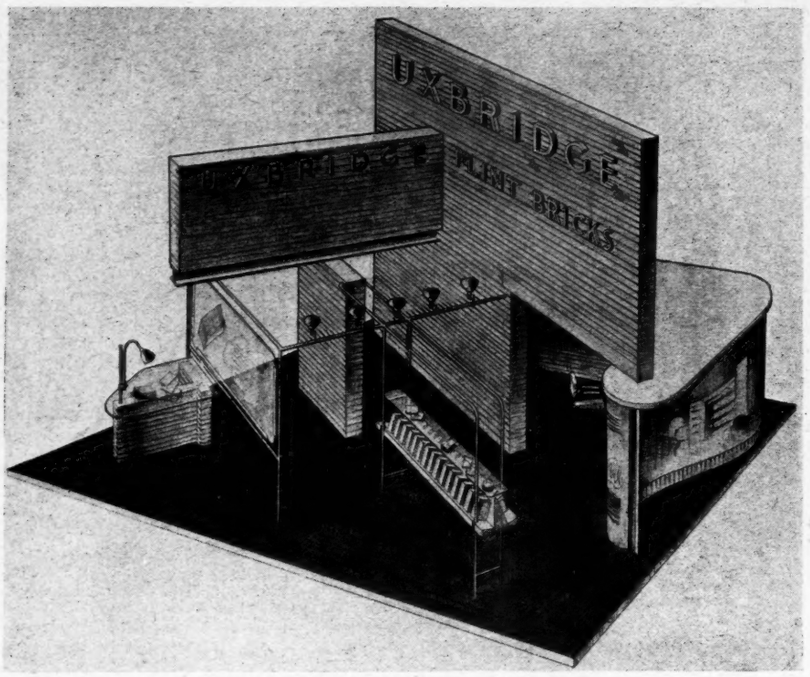
A Kentish oast house is the central feature of Stands 100 and 101, Row E, those of the MARLEY TILE (HOLDING) CO., LTD. The oast house displays specimen roofs showing the various types of tiles manufactured by the company.

The exhibit of H. J. AND C. MAJOR, LTD., Stand 105, Row E, is covered with "Double Roman" tiles, for which, it is claimed, a great use has been found in connection with public buildings, as well as numerous housing schemes. Other articles of manufacture by the same firm include No. 6 "Breakjoint Double Roman" interlocking tiles, No. 6 "Straightjoint Double Roman" tiles, No. 2 pantiles, No. 5 "Single Roman" tiles, treble tiles, half round and plain ridges, etc.

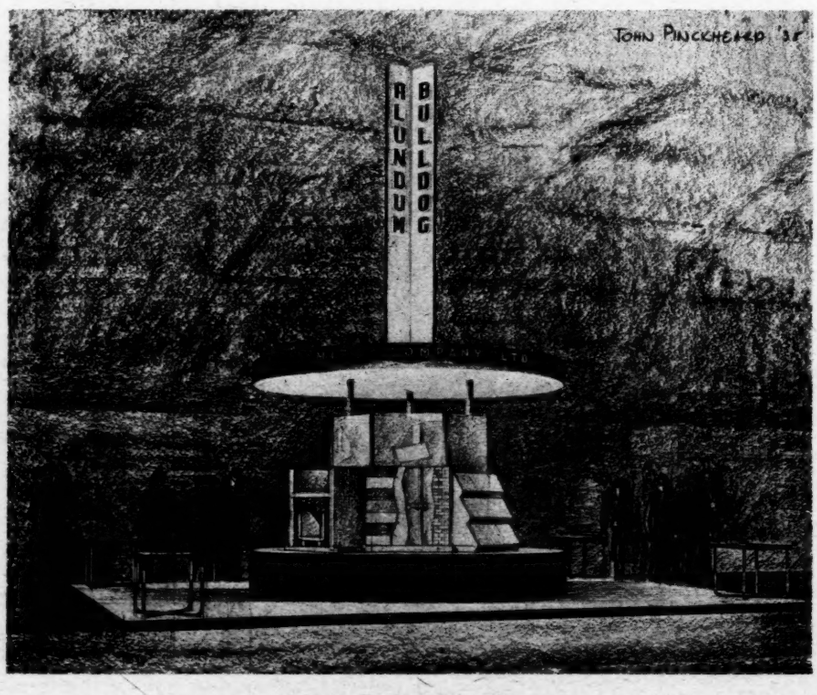
THE RYARSH BRICK AND SAND CO., LTD., at Stand 95, Row E, are showing built-up panels of Ryarsh white facings, buff facings, blue facings and red facings, and many other colours in 2-in. and 2¼-in. bricks.

BUILDERS' MATERIALS AND PROCESSES.

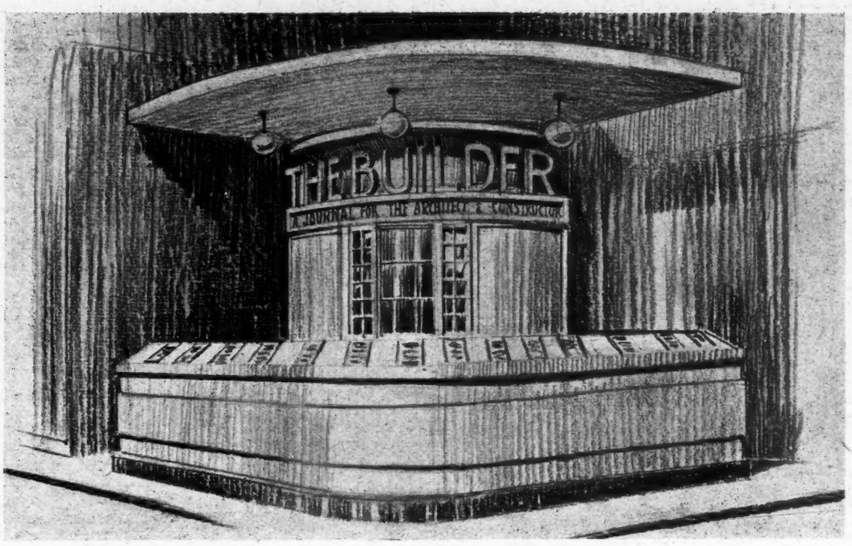
THE ADAMITE COMPANY, LTD., have had their stand (Nos. 165 and 166, Row H) designed by Mr. Harold Davies, A.I.A.A., as a background for the exhibition of the "Adamite" products. The exhibit is divided into six parts, each part confined to one product or group of products. These are (1) "Alundum" non-slip products, the display consisting of three steps each treated in a different manner but all non-slip and wear-resistant; (a) a granolithic step with a coloured tread incorporating "Alundum" commercial aggregate; (b) a terrazzo step incorporating three rows of "Alundum" mosaics; and (c) a Hopton Wood step incorporating 6 in. by 6 in. by ¾ in. "Alundum" round-nosed tile. (2) "Atlas White" Portland cement and "Adamite Mixture," consisting of a brick wall pointed with "Atlas White" Portland cement and incorporating in the centre a panel of unfadeable "Adamite Mixture" stucco in various colours. (3) "Bull Dog" floor and ceiling clips; (a) regular; (b) acoustic, consisting of three sections of fireproof flooring: (1) Concrete floor slab showing 2 in. regular and 2 in. acoustic "Bull Dog" floor clips, as fixed and with the ears opened to receive the floor fillets; (2) "Truscon" precast beam floor, showing 2 in. single leg "Bull Dog" floor clips anchoring the wood floor above and long shank ceiling clips securing the suspended ceiling below; (3) Kleine hollow-block floor, showing 2 in. acoustic "Bull Dog" floor clips above and single leg ceiling clips below. (4) "Colemanoid" No. 1 liquid integral waterproofer and hardener and "Colemanoid" No. 3 liquid surface hardener. (5) "Redalon" liquid, Grade A, used to expose the aggregate (for ornamental purposes) on the central panels, and "Redalon," Grade B, used to obtain an efficient key for plastering, this obviating hacking. (6) "Ellicem" Tenacious Cement Paint, consisting of a section of walling showing "Ellicem" tenacious cement paint used both as paint and in the form of a screed on materials, such as concrete, blue bricks, flettons, glazed bricks, plaster and lead piping. This exhibit should undoubtedly interest every architect and builder.



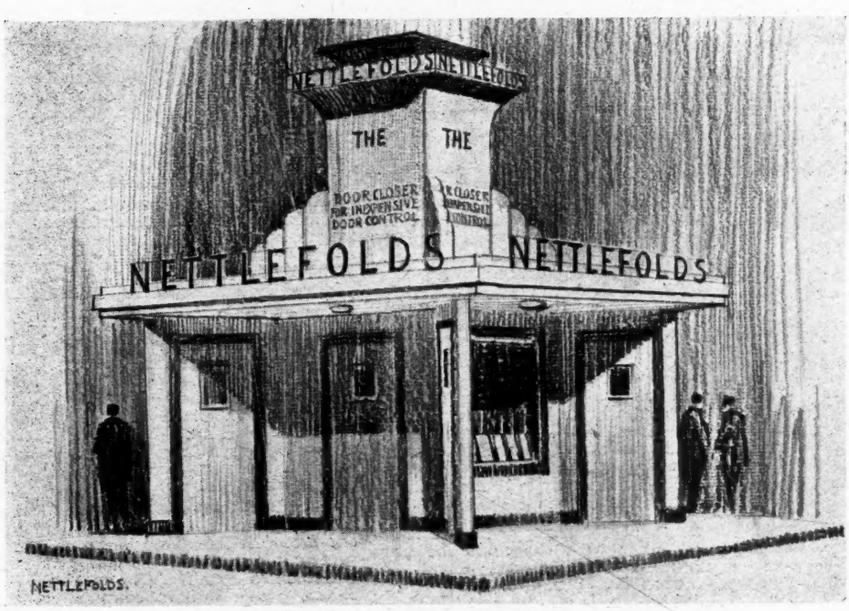
THE HUNZIKER (GREAT BRITAIN) STAND No. 337, ROW T.
DESIGNED BY MR. E. MAXWELL FRY, B.ARCH., A.R.I.B.A.

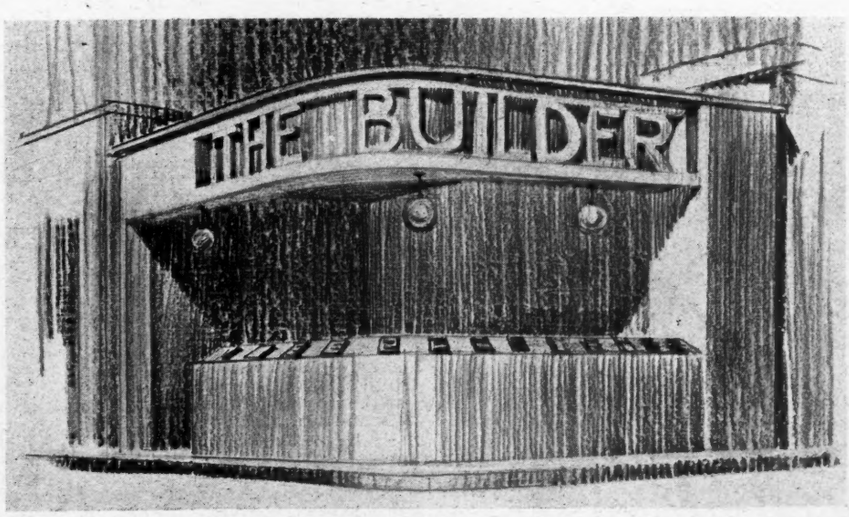


THE ADAMITE COMPANY'S STAND.
DESIGNED BY MR. HAROLD DAVIES, A.I.A.A.



DESIGNED BY MR. T. S. DARBYSHIRE, A.R.I.B.A





DESIGNED BY MR. T. S. DARBYSHIRE, A.R.I.B.A.

SOME STANDS AT THE BUILDING EXHIBITION.

SPECIALLY DRAWN BY A. C. FARE, R.W.A.

The floor of the stand of the ATLAS STONE Co., LTD., No. 41, Row C, is paved with "Atlas" hydraulically-pressed "Foothold" paving slabs, 2 in. thick, in three standard colours: red, grey and buff. The four piers supporting the fascia are an example of "Atlas" reconstructed stone, showing a finish which is claimed to be least susceptible to crazing. The stools at the feet of the columns are covered with "Atlasite" decorated asbestos sheeting, a product which lends itself to interior decorations. The exterior of the office on the stand is covered with 3-in. and 6-in. "Atlas" corrugated asbestos sheets in various colours, and also with "Atlas Roystone" slates of speckled green and black and speckled black and green.

The modern developments of gypsum (calcium sulphate) for enduring plaster work, and their repercussions on plastering techniques, have resulted in the stands of the BRITISH PLASTER BOARD, LTD. (NOS. 211 and 212, Row K) demonstrating (1) Hemihydrate plasters, such as "Thistle," "Murite," "Pytho" and "Mapco," as backing for all types of finish; (2) Keene's cement and anhydrous finishes, and (3) Hemihydrate finishes.

The stand of CARTER AND CO., LTD., No. 197, Row J, is designed by Mr. Oscar A. Bayne, A.R.I.B.A. On it the exhibits include a curved screen wall and a large forecourt, the wall being used to display the firm's frostproof tiles, unit faience and glazed tiles for interior use. The forecourt is attractively laid out to show various non-slip floor tiles, a new pentagonal mosaic, and a variety of step nosings and treads. The full range of colours of all products are shown, together with numerous photographs of their applications in recent buildings.

The stand of CELOTEX, LTD., No. 9, Row B, is built entirely from "Celotex" products, with the exception of the structural work. "Celotex" products, which are attractively displayed, can be broadly classified as insulation products, interior finish products, hard board products, and acoustical products. Detailed information of these manufactures and their respective uses is available at the stand, together with specimens of each.

THE NORTH BRITISH RUBBER CO., LTD., on Stand 159, Row G, show a comprehensive range of their "North British" products, including rubber flooring, terrazzo rubber flooring, "Supertex" plastic underlay, combined rubber tread nose and riser, and rubber baluster rails.

Continual demonstrations of products of the QUICKSTRYP CHEMICAL CO., LTD., will be given daily on Stand 18, Row B. "Quickstryp," described as a remover for decorators and builders, does not dry quickly, it is claimed. It should be stippled or dabbed over in a thick, heavy, even coating, and left to strip the paint. "Quicker-stryp" is a non-inflammable remover, and is reported to be rapid in its action on thin films of paint, varnish, cellulose, or any kind of stoved enamel. "Quickstryp-Cel-Synth" is claimed as the ideal medium for removing all kinds of cellulose or synthetic paint from metal or wood. Demonstrations of "Quickstryp Distemp," "Quickstryp Wallpaper Strippers" and "Quickstryp Utility Brush Cleaner and Softener" are also given.

The stand of G. R. SPEAKER AND CO., LTD., No. 301, Row Q, is constructed with Speaker's "Eonit" patent pumice partition blocks, showing the correct method of erection. "Eonit" pumice lintels have been incorporated, together with "Eonit" for the insulation of flat roofing. Bulk samples in all thicknesses are available for inspection, and specimens of the "Eonit" aggregate are exhibited. The advantages claimed for the material include light weight, accurate size, true shape, fire resistance, low moisture movement and drying shrinkage, and a good key for plastering. The full range of Speaker's "Eternit" asbestos-cement is also represented.

T. S. W., LTD., on Stand 368, Gallery, show their Mortone water-repellent renderings, a factory-made mixture in white and colours for internal and external use. This material, being gauged with water only in the usual way, is applied to a backing-coat or direct on concrete. Panels in various colours are exhibited showing the different finishes, scraped—fine and medium—and rustic finish applied with the machine. Other exhibits include "Hafto" adhesive, for preventing tiles becoming loose.

BUILDERS' PLANT.

A.C.E. MACHINERY, LTD., are showing on Stands 321 and 322, Row S, a comprehensive range of "ACE" hoists, constructed to deal with varying conditions and loads. These are available driven electrically or by petrol or by Diesel engine. Further examples of the adaptation of the "ACE" tower mast to hoist practice is demonstrated by a gear-driven type having push-button remote control. An interesting exhibit is the "ACE" goods-passenger-carrying hoist. The stand is so arranged that visitors may ride on the hoist. Further exhibits are a Diesel engine-driven hoist, and a self-priming 2-in. centrifugal "ACE" pump.

Crockatt "Simplex" terrazzo floor-polishing machines, in three sizes—"Major" double disc, "Minor" double-disc, and No. 2 single-disc—are shown, both electrically and petrol-driven, and with wall-polishing attachment, on the stand of W. CROCKATT AND SONS, LTD. (No. 63, Row D). The chief feature of the "Major" polisher is the totally enclosed gearing running in an oil bath. This is claimed to give an efficient drive and has the advantage of being free from noise. The machines are all arranged so that the electric motor can be replaced quickly by the petrol engine, and vice versa. There is also on view a range of polishing blocks, as used in the firm's machines.

A new exhibit this year on the stand of T. C. JONES AND CO., LTD. (No. 221, Row K), is their portable electric welding set, which is driven by a four-cylinder, water-cooled petrol engine, and is mounted on two pneumatic wheels, fitted with brakes and the necessary draw-bar, making it suitable for trailing behind a lorry. This equipment is claimed to be capable of a steady load of 200 amps., and is provided with a steel house to protect the unit from weather and dirt. Provision is made for the carrying of acetylene and oxygen gas bottles. Also shown is a "Super 12" petrol crane, fitted with a 25-ft. mast, which can be extended to 35 ft. (this crane is claimed to be capable of lifting 12 cwt., and power for slewing is taken from the 5-h.p. petrol engine, which also lifts the load; the wheels, which are suitable for road or rail, are fitted with roller bearings, and these are also fitted to the winch drum and the jib head pulleys). Centrifugal self-priming pumps, with a 6-in. discharging delivery, a 5/3½ mixer and a small tools department are also shown.

A full range of "Kango" and "K.B." hammers, together with the tools for use with them, is shown on the stand of MANSIONS MOTOR CO., LTD., No. 324, Row S. The "K.B." hammer is a light portable tool, with a current consumption of about 160 watts, and is fitted with an air-cooled universal motor, which makes it suitable for either A.C. or D.C. Its principal uses are for ship scaling, boiler scaling, etc., and special tools have been devised enabling it to do this work quickly and economically. It can also be used for drilling holes for "Rawlplugs" and chipping all classes of metal, flash from welding, etc. The "C" type "Kango" is used for lighter work in the building trade, such as drilling holes in concrete, brick, etc., up to 1 in. diameter, chasing for electric conduit, cutting holes for switch boxes, and hacking and bush hammering walls to prepare them for plastering. The "D" type "Kango" is claimed to be the most powerful electric hammer made, and is suitable for heavy work, such as cutting away concrete.

One of the chief exhibits on Stand 342, Row V, that of MILLARS' MACHINERY CO., LTD., is a 4-in. single-diaphragm pump, fitted with a 3-h.p. petrol engine and having a capacity up to 8,500 gallons per hour. It is fitted with four 16-in. pneumatic-tyred road wheels. Millars'-Jaeger 7/5-BL tilting drum type concrete mixer is fitted with a 3-h.p. Millars'-Bamford vertical petrol engine with power-operated side loader, with automatic control gear and automatic shaker gear. Its average working capacity is claimed to be 40/50 cub. yd. mixed concrete per eight-hour day. It is mounted on two pneumatic-tyred wheels, complete with water tank. Also shown is the Millars' overdriven roller pan mill for handling compo, sand-lime mortar or black mortar. The pan is 4 ft. 6 in. in diameter and is fitted with a 5-h.p. vertical petrol engine and is mounted on road wheels with swivelling front axle and draw gear.

A circular office occupies the centre of Stand 335, Row T, that of WINGET, LTD. Giant photographic enlargements of "Winget" machines appear on the external walls of this office in photo-montage effect. At the main entrance to the stand a huge revolving globe represents the world, and red spots denote where "Winget" machines are in use. The end of the stand is devoted entirely to "Warsop" road-breakers and "Rok" drills, the plant shown comprising the S6 road-breaker, a "Rok" drill, and a "Road-Breaker" sectional model in motion.

CONSTRUCTIONAL AND METALWORK.

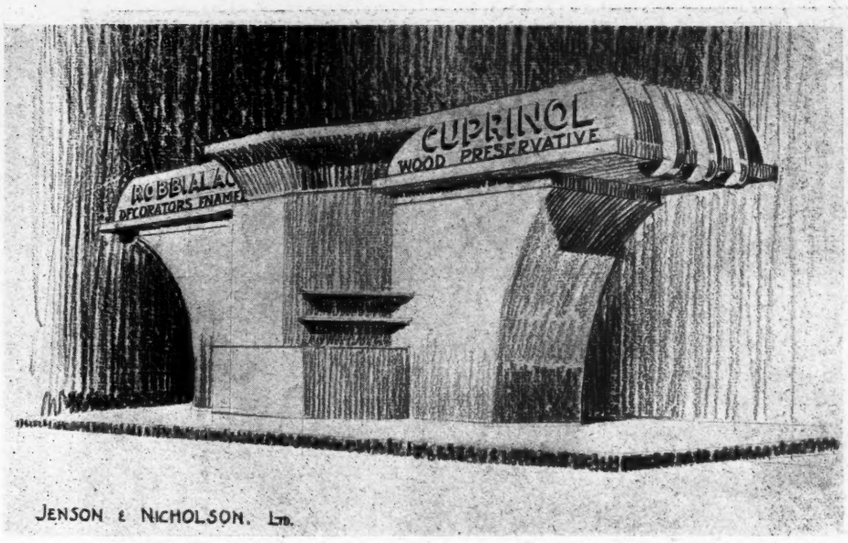
Structural steelwork and sheet steel for air raid protection form the principal exhibits on the stand of the BRITISH STEELWORK ASSOCIATION, No. 278, Row O. Models are shown of independent shelters protected against gas, splinters and blast; there are also suggestions for basement shelters in existing buildings, giving security at small cost. Literature on structural steelwork is available, and also on sheet steel for the building industry.

The exhibit of the LEAD INDUSTRIES DEVELOPMENT COUNCIL (Stands 361 and 363, Gallery) displays the various uses and advantages of lead sheet and pipe work in modern building practice, and of red lead and white lead paints in protective and decorative painting. Practical demonstrations of plumbing, lead burning and painting are given on the stand by skilled craftsmen, and a technical staff is in attendance to deal with any inquiry or matters concerning these materials. Typical examples of leadwork will be on view.

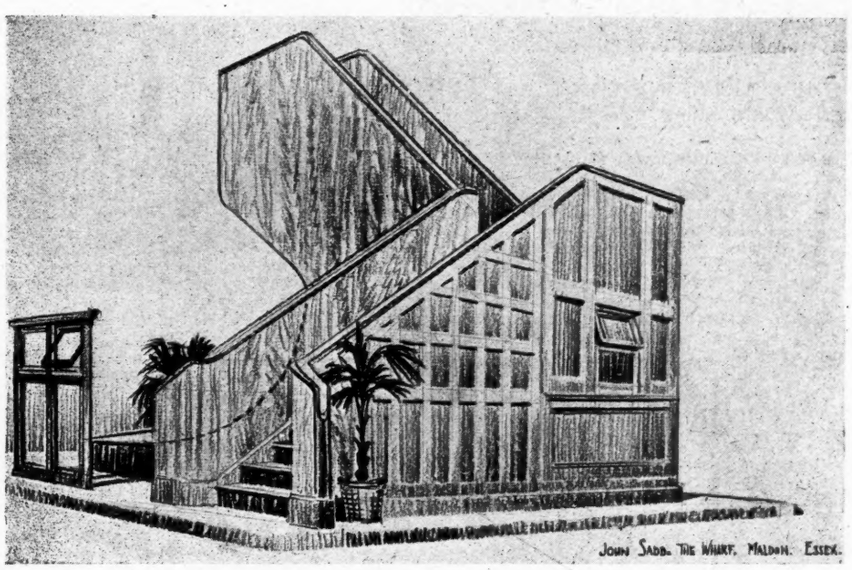
Exhibits of all types of tubular structures—scaffolding work, grandstands, mobile towers, storage racks, sheds, trolleys, diving stages, water chutes, crush barriers, all kinds of tubular framework—form the display on the stands of THE LONDON MIDLAND AND STEEL SCAFFOLDING CO., LTD., NOS. 293 and 294, Row P. Also shown are Burton's patent "Quick Grip" double-coupler, the patent putlog coupler, putlogs, split joint pin and combined joint pin coupler, the patent swivel coupler, "Bur-Shores," for shoring and centering work, and trench-shores. A full range of special box spanners and all other fittings and component parts of steel tubular construction is also displayed on the stand.

"Big Ben" steel tubular scaffolding, comprising plain-ended butt welded tube and one-piece British drop forgings, forms the principal exhibit on the stand of THE STEEL SCAFFOLDING CO., LTD. (No. 191, Row J). Also shown are a double coupler with a 4-in. encircling grip and no loose parts; a swivel coupler, which enables two tubes to be coupled together at any angle in the same plane; a split joint pin, suggesting a quick method of joining plain-ended tubes end to end; a putlog head, designed to save the expense of omitting bricks to receive putlogs; rubber-tyred castors, guard board clips, eliminating the necessity of nailing or lashing scaffold and toeboards; and "Split-shore," a medium for quickly erecting decorators' and plasterers' platforms.

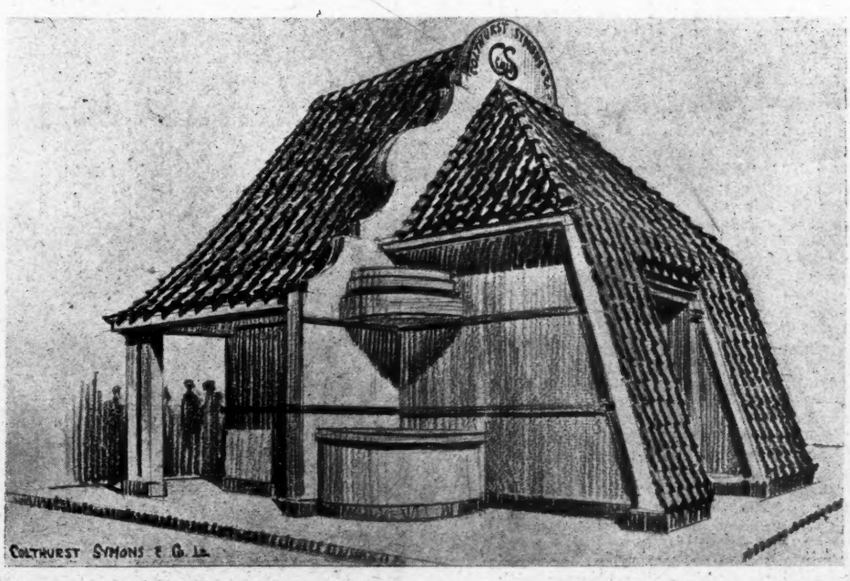
THE YORKSHIRE COPPER WORKS, LTD., on Stand 115, Row F, show examples of water service and heating systems in "Yorkshire" tubes and "Yorkshire" fittings, which are claimed to provide a reliable and economical copper water service system. "Yorkshire" fittings are said to contain the correct amount of solder to make a perfect joint, being complete in themselves and only requiring the application of flux and heat to make the joint. It is unnecessary to tin either the tube or the fitting beforehand, or to feed solder externally. It is reported that tests show that on both tensile and bursting tests the "Yorkshire" joint is stronger than the tube. A facsimile of the National Physical Laboratory report containing full details of these tests, as well as a paraffin seepage test under pressure, alternate heating and cooling tests, and vibration tests, will be sent on application. The attention of visitors is specially directed to the display of "Yorkshire" waste fittings, which are remarkable for their neatness, and provide an excellent appearance in complete assembly.



JENSON & NICHOLSON, LTD.



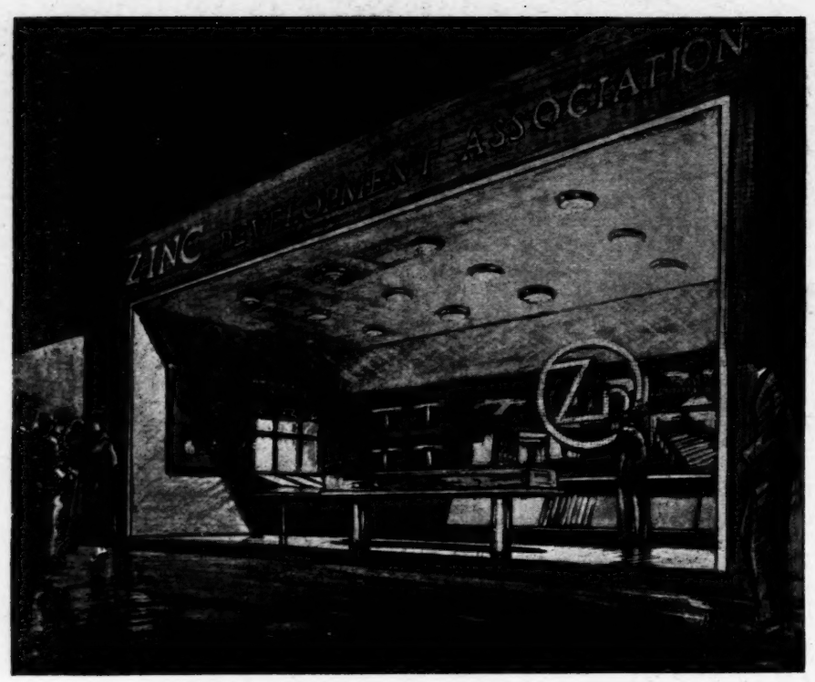
JOHN SADD. THE WHARF, MALDON. ESSEX.



COLTHURST SYMONS & CO. LD.

SOME STANDS AT THE BUILDING EXHIBITION.

SPECIALLY DRAWN BY A. C. FARE, R.W.A.



THE ZINC DEVELOPMENT ASSOCIATION'S STAND.
DESIGNED BY MR. R. LEWIS STUBBS, A.R.I.B.A.

The stand of the ZINC DEVELOPMENT ASSOCIATION, LTD., No. 359, Gallery, has been designed to serve as an information bureau. A specially illustrated pamphlet is being distributed from the stand, and a new publication on roll cap zinc roofing, which is now being printed, is also available. On the walls, a series of full-sized models, showing the various applications of zinc, is displayed. The largest of these is a full-sized section of a zinc roof, which is explained by detailed drawings. Models showing the use of zinc for rainwater goods, and for covering parapets and cills, are grouped on each side of this model. Another series of models shows the use of zinc for weather strips. Galvanised iron, sherardising and zinc-sprayed articles are also shown on the stand, and in a small showcase some of the new designs of zinc die-cast door furniture and other interior fittings are shown. The stand has been designed by Mr. R. Lewis Stubbs, A.R.I.B.A.

EQUIPMENT FOR BUILDINGS.

The exhibits on the stand of ROBERT ADAMS (VICTOR), LTD. (No. 104, Row E), consist of a full range of door springs and hinges for all requirements, including the new improved "Sceptre Victor" double-action and "Gem Victor" single-action shallow box floor spring hinges, with patented water and oil type devices and silent check action. There are also improved ventilating gearing for single sashes and ranges of sashes in any length. Panic bolts, incorporating the latest requirements of the London County Council, are shown in iron, brass, B.M.A. and stainless steel, for single and double doors, with and without key action. Other exhibits include steel windows, casements and fittings of all descriptions, special automatic locking types of patent exit bolts, and the "Pullman" spring sash balances, an improved method of balancing double-hung sashes for side and top fixing (rustless cases).

Roller shutters and lifts form the principal exhibits of G. BRADY AND CO., LTD., on Stand 54, Row D. Shutters shown include those especially made in connection with the rearmament programme, and the new pattern shutter specially designed for A.R.P. use. There are both hand power and electric lifts, which form a considerable part of the firm's activities, and also an automatically self-sustaining hand-power lift which dispenses with the use of a separate break rope; this is a working exhibit. Another feature of interest is an electrically operated "Colossus" lath wood rolling shutter with large windows for observation and natural light. There is a comprehensive display of hand-operated garage shutters, a steel revolving shutter with machine-cut gears, and various types of shutters for a variety of uses.

THE BRITISH ELECTRICAL DEVELOPMENT ASSOCIATION stand, No. 148, Row G, forms the gateway to the Electrical Section, and is divided into sections, each section being devoted to the use of electricity in the design and construction of modern buildings, and illustrating the latest types of installation and floor ducts systems, planning of electrical kitchens and bathrooms, efficient and economical schemes of lighting and heating, and affording a complete service to architects and builders.

CRANE, LTD., on Stand No. 291, Row P, are again displaying interesting examples of their equipment for heating and hot water supply for all kinds of buildings. The central feature of the stand is one of the new No. 4 "Whitehall" boilers, cut to show the internal construction. The firm report that the external appearance of the No. 00 "Ipswich" domestic boilers has been further improved, and now accords with modern design tendencies for kitchen fittings. Another new design is that of the "Carlton" boiler. Several interesting examples of the Crane concealed radiator are displayed, together with a selection of Crane "Pall Mall" and hospital radiators.

The stand of THE EDUCATIONAL SUPPLY ASSOCIATION, LTD., No. 314, Row R, is designed in the modern manner, showing various adaptations of the "Esavian" folding and sliding principle. At the end on the main gangway is a circular "Esavian" folding and sliding loggia door, made in five sections, with the centre section hinged so that it can be used as an ordinary door. At the opposite end is a set of "Esavian" folding and sliding garage doors, 16 ft. high. On one side is an "Esavian" folding and sliding window fitted with pivoted fanlights above and hinged hoppers with glazed cheeks below, and adjoining is an "Esaround" garage door in three sections, and also an "Esavian" folding and sliding garage door folding flat back to the wall. Also shown is a "Morlite" window, 18 ft. by 4 ft., in five folding sections, with the centre section opening independently and fitted with casement stay and fastener. Within the stand are to be found examples of the "Esasilent" folding and sliding partition.

Six practical suggestions to builders as an aid to selling their houses is the theme of THE GAS LIGHT AND COKE CO.'s stands, Nos. 315 and 316, Row R. Alternative installations for hot water in modern flats and houses are shown; a feature of the refrigeration display is a built-in model as a standard larder provided by the builder; a special

STAND FOR LLOYD'S BOARDS, LTD. ROW F, No. 121.
DESIGNED BY MESSRS. C. W. GLOVER AND PARTNERS.

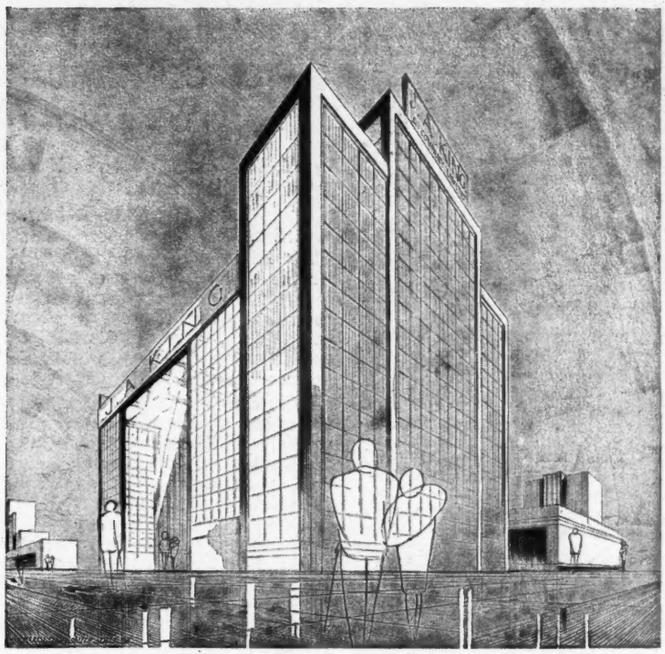
offer is made of gas fires; and the cooking section shows enamel cookers with automatic control. Central heating by gas is shown to be an economic proposition on the two-part tariff, and a practical example of the general economy of gas is illustrated by a modern block of working-class flats, where the fuel bill of the tenants using only gas and coke is shown to be appreciably less than that of the average Londoner.

Water heaters for every domestic purpose, including automatic (thermostat-controlled) heaters for circulatory systems for alternative use with coal- or coke-heated boilers, or as a sole means of water heating, are shown on Stand 240, Row L, that of HURRY WATER HEATER CO. Other exhibits include (1) Combination (hot-water) storage and heater units in several capacities; (2) domestic wash boilers, including the modern enamelled square types; (3) dual-purpose wash boilers; (4) the "Two-in-One" tank, in which the ball-valve (cold water) feed tank is incorporated with the (hot water) storage tank, in an all-copper unit.

On the stand of A. JOLNSON AND CO. (LONDON), LTD., No. 36, Row C, are displayed various types of "Savestane" stainless steel "Synkunits," sinks and table tops. These "Synkunits," consisting of sink bowl and draining board, constructed from one stainless steel sheet, can be made in practically any shape or size to fit all types of kitchens. An interesting feature is the unit comprising combination sinks, one of these bowls being used for washing vegetables, knives and forks, etc., whilst the larger bowl is used for washing up. All these units are supplied with a satin finish, which is claimed to render scratches almost invisible.

GEO. W. KING, LTD., on Stand 405, Gallery, show a range of overhead tubular tracks and fittings for doors up to 3 tons in weight. Also "Out of the Way" and "Around-the-Corner" sliding doors for garages, warehouses, etc.; silent sliding gear for domestic and interior doors; light straight sliding gear for small poultry houses and similar doors; revolving summer house gear; metal window ventilators; conveying systems and overhead runways; "Ropelock" pulley hoists and chain hoists.

A special feature of the display of W. LUSTY AND SONS, LTD., on Stand 242, Row L, is a series of kitchens, furnished with alternative styles of "Maidsaver" unit fitments. These range from inexpensive whitewood fitments to highly finished enamelled fitments, complete with storage equipment. In addition, a selection of "Maidsaver" kitchen cabinets of special design in various finishes, including oak, waxed and shaded, plain and shaded enamel, is displayed, together with whitewood cabinets.

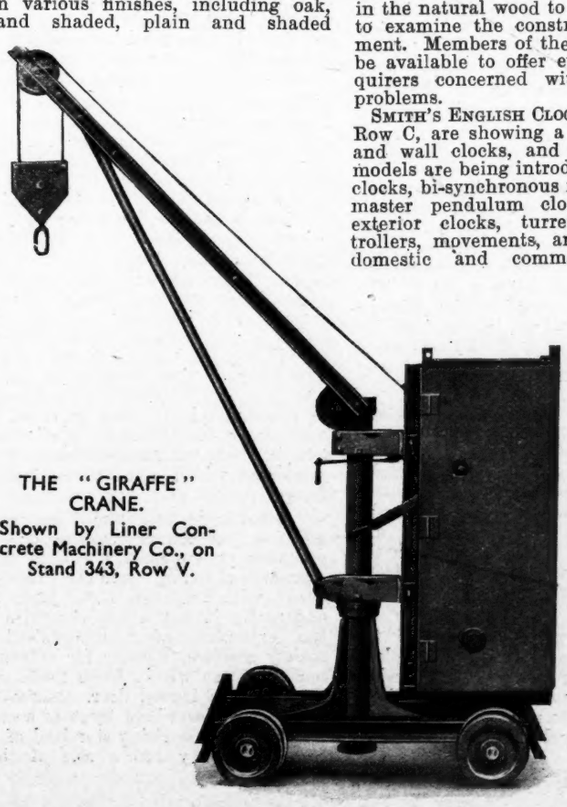


MESSRS. J. A. KING & CO'S STAND.

A new development in door closers, the "Bescot" door closer, is shown on the stand of NETTLEFOLD AND SONS, No. 200, Row J. Also shown are the "Guardian" door closer, the "Guardian XXX" tubular mortice lock, the "Guardian" plunger handle lock set and secret fixing grip handles. A large range of "Semprax" stainless steel fittings is displayed in a variety of new patterns. In addition, modern door, window and all interior fittings in a number of new designs, manufactured in bronze, chromium plate and "Semprax" stainless steel are shown.

PEERLESS KITCHEN CABINETS, LTD., on Stand 323, Row S, display an exhibit consisting of four fully equipped kitchens illustrating how the various units in the company's comprehensive range can be adapted to provide the most suitable lay-out for kitchens of any size or shape. Two of the kitchens are finished in cellulose, the others being left in the natural wood to afford an opportunity to examine the construction of the equipment. Members of the firm's sales staff will be available to offer every assistance to inquirers concerned with kitchen planning problems.

SMITH'S ENGLISH CLOCKS, LTD., on Stand 47, Row C, are showing a full range of mantel and wall clocks, and many new domestic models are being introduced; also "Sectric" clocks, bi-synchronous master clock systems, master pendulum clocks, time recorders, exterior clocks, turret clocks, bell controllers, movements, and all appliances for domestic and commercial time-keeping.



THE "GIRAFFE" CRANE.

Shown by Liner Concrete Machinery Co., on Stand 343, Row V.

The firm report that they have paid particular attention to the trend of modern architectural design, and have produced their models accordingly. Every taste is catered for, and there are models to harmonise with any decorative scheme.

STAINLESS STEEL SINK CO., LTD., in association with the Taylor Rustless Fittings Co., Ltd., display on Stand 339, Row T, a comprehensive range of stainless steel products. The "Pland" stainless steel sinks, tanks, etc., are manufactured in various sizes suitable for all types of houses, from the small flat to the mansion. They may also be used in hospitals, institutions, hotels, restaurants, clubs, etc. The sinks are claimed to be of 100 per cent. British construction from specially manufactured 18/8 chromium nickel content stainless steel, and the units are assembled into one piece without joints or crevices, thus minimising the collection of dirt. Other fittings displayed include door furniture of both standard and special design, various kinds of architectural fittings, such as hand and foot rails, crush barriers, etc.; also shop fittings.

GLASS, GLAZING AND STEEL WINDOWS.

An impressive stand, designed by Mr. Raymond McGrath, B.Arch., A.R.I.B.A., is that of JAMES CLARK AND SONS, LTD., No. 303, Row Q. The stand is almost entirely covered in glass of various types, and consists of a streamlined tower 20 ft. 6 in high, covered in "Vitroflex," standing in a lake with waterwave roughcast bottom and "Vitrolite" pressed glass tiled sides; also a pyramid, faced on three sides with "Vitrolite" and on the fourth side with samples of similar material. Behind these two main features stands a wall lined on the inside with tinted mirrors, a decorative mirror, examples of engraving, and on the outside with matt and fluted "Vitrolite" glasses. The remainder of the wall is of glass bricks, which form one side of the office, the other walls being made up respectively of a large lighted panel of "Art Thermolux" and a light partition with enlarged photographs. The stand has indirect lighting.

A glass pavilion designed to show the reinforced concrete and glass constructions called "Glas-crete," forms the stand of J. A. KING AND CO., LTD. (No. 156, Row G). The "Glas-crete" type of reinforced concrete and glass, weight-bearing, translucent construction is designed to be suitable for pavement, floor and roof lights; also for canopies, domes, staircase windows and partitions. "Glas-crete" roof lights have a smooth top surface, which can have granolithic or patent asphalt finish with no exposed concrete. At night a brilliant appearance is produced, it is claimed, by the modelling on the soffit glasses reflecting the internal illumination. Other features of the stand include "Cristol Glass," a high-relief glass in copper glazing for domes, laylights,

etc.; "Chisarc" reinforced concrete light roof construction; "King" ferro-concrete glazing bar, which is claimed to require no painting for upkeep, being free from rust; and also "King" self-centering floor tubes.

The stand of the LONDON SAND BLAST DECORATIVE GLASS WORKS, LTD., No. 117, Row F, shows the varied and comprehensive character of the firm's products. A variety of decorative glass technique is demonstrated, the stand itself consisting of decorative glass mirrors, niches, illuminated counter, and a large ceiling laylight in the firm's newest product, bent "Treta" glass, which is suitable for use in public buildings, offices and flats, and for domestic decoration.

The stand of THOS. PARSONS AND SONS, LTD., No. 171, Row H, is designed on modern lines and contains a commodious hall for the purpose of daily demonstrations of the firm's product, "Parso-Glaze," a scumbling glaze for obtaining shaded and broken colour effects. The exhibits also include the following enamels: "Endelline," for interior and exterior use, producing a porcelain-like finish that may be washed; "Endelflat," for interior use, producing a soft, almost dead flat finish of a washable character; "Half-time," a semi-synthetic product which is claimed to dry in four hours and give the elasticity and durability of the longer-drying enamels; also "Phaltic" bituminous paint.

WOODWORK, PRESERVATIVES AND WALLBOARDS.

The Canadian section on Stand 192, Row J, is sponsored by the CANADIAN GOVERNMENT EXHIBITION COMMISSION. A one-storey bungalow is erected depicting the use of Canadian cedarwood tiles as a cover for exterior walls and roofs. Eastern Canadian spruce is used for the studding and rafting, and the flooring is of Eastern Canadian birch and spruce. The interior of the bungalow is not sub-divided, but contains displays of Canadian woods and plywoods.

One of the principal exhibits on the stand of N. GERVER, No. 262, Row N, is the range of "Gerwood" flush doors. They can be supplied to every requirement, and among the standard productions on exhibition are "Gerwood" flush doors faced birch, beech, elder, pine, luaun, mahogany and oak. These doors can also be veneered to specification with selected inlays. Flush and solid Austrian oak entrance doors, deal front and back doors in modern designs are also featured, with oak floorings, of various grades and thicknesses, oak skirtings, etc.

The TENTEST FIBRE BOARD CO., LTD., on Stand 172, Row H, are showing, in addition to their insulating board, the various new methods which they have developed for the fixing of fibre boards, plaster boards or similar materials, which methods are of particular significance in relation to steel-framed buildings. The chief points of interest are: (1) Metal cover strip, which provides a fixing for insulating fibre board beneath corrugated roof and wall covering and the like, without the use of timber, nails or screws; (2) adjustable metal fixing, which provides lightweight framing to carry ceilings or wall linings of sheet material; (3) box section steel partition framing; (4) box section steel joists; (5) "Inkley Friction Clip," a device for fixing plaster board or other rigid sheet material to steel purlins and the like. The new "TenTest" hardboard is also on show.

This year's stand of THAMES BOARD MILLS, LTD., No. 164, Row H, is specially designed to show the results obtained when "Essex" Board is used for walls, ceilings and partitions, and gives an idea, by means of models, of its many and varied applications in all kinds of buildings. Attention is drawn to the strength and rigidity of the product, as well as to its canvas-like surface. This type of board, it is claimed, can be used in all kinds of buildings, not only for new work, but also for alterations, renovations, repairs and conversions.

EDUCATIONAL.

The feature of the stand of THE WAVERLEY BOOK COMPANY, LIMITED (No. 427, Gallery), is the firm's new "Building Encyclopædia." This encyclopædia forms a handbook of modern building practice for the working builder, and covers such subjects as brickwork, masonry, concrete, metals, building construction, architecture and design, houses, flats, repairs, flooring, roofing, costing, estimating, quantities, etc. The stand will also show a wide range of technical, educational and standard publications.

FACILITIES TO CONTRACTOR

RIGHT OF WAY—I.

By W. T. CRESWELL, K.C., Hon.A.R.I.B.A., A.S.I., etc., assisted by NORMAN P. GREIG, B.A., Barrister-at-Law.

Facilities.

AN employer is bound to provide the site for the building enterprise by or before the time given in the building contract; and if no time is given, then he must hand over the site at once, since it is implied by the contract that the employer is in a position to do so on the contract being entered into.

Failure on the part of an employer to give possession of the site enables the contractor to throw up the contract, and bring an action against the employer for damages; or, if he does eventually, and after delay, obtain possession of the site, the contractor may, of course, begin the work and finish it; but he is not precluded from bringing an action for damages for breach of the contract consequent on failure to give possession of the site in the terms of the contract.

In Roberts *v.* Bury Commissioners (1870), L.R. 5, C.P. 310, an action to recover damages by a plaintiff who alleged that the defendant had prevented him from completing a building contract, Cleasby, B., said: "If in fact the defendants had refused to perform any conditions precedent to the plaintiff's proceeding with the contract, such, for instance, as giving possession of the ground, the plaintiff would have been entitled to throw up the contract and to recover his damages; but, if he afterwards proceeds with it, he waives this so far as it is a condition precedent, and even in this case, . . . he must proceed upon the whole contract, retaining, of course, any right to recover damages, if there has been a breach of the contract on the part of the defendants."

In Trollope and Sons and Colls and Sons, Ltd. *v.* Singer (1913), H.B.C. (4th ed.) 849, a contractor claimed damages for delay by reason (among other things) of the non-supply of drawings, essential information and details. The employer counter-claimed for damages for delay in completion. The architect had extended the time for completion, as had also the arbitrator, to the date when the work was actually completed. It was held that this extension did not affect the damages claimed by the contractor for breach of contract, *e.g.*, by not affording possession of the site, and by interference with the execution of the work.

Right of Way.

It frequently happens that building contracts are let without forethought or knowledge as to whether there is even a right of way on to the site. In such circumstances the employer cannot, of course, give possession of the site in the terms of the contract. The employer should have regard to the risks he runs, as already referred to, for his inability to give possession pending the dispute as to whether there is or is not a right of way to the site.

If the employer has employed an architect, he is entitled to look to the latter for protection from any action taken by the contractor; and since, in general, the default of an architect is, as between the employer and the contractor, the fault of the employer, the architect may be liable to his employer for any loss sustained by him in his action with the contractor consequent on the architect's failure to inquire into the right of way beforehand.

A right of way gives a right to the dominant owner to use in some way the land belonging to another owner (the servient owner). It can be a private or public right. All the King's subjects are entitled to use a public right of way, and it is therefore called a highway.

A highway is not an easement, whereas a private right of way is. A highway is dedicated to the public for the purpose of passing and repassing along its surface. An easement is only enjoyed for this purpose by the dominant owner; the servient owner still retains possession of and occupies the land which is subject to the easement.

By Section 1 of the Rights of Way Act, 1932, where a way has been actually enjoyed by the public "as of right" (that is, without permission, but in recognition of a right to use the way), and without interruption for a full period of 20 years, such way is deemed to have been dedicated as a highway unless there is sufficient evidence that there was no intention during that period to dedicate such way, or unless during that period of 20 years there was not at any time any person in possession capable of dedicating the highway. If such a way has been enjoyed for 40 years it is deemed conclusively to have been dedicated as a highway unless there is sufficient evidence that there was no intention during that period to dedicate the way.

A private right of way exists by express or implied grant or by prescription, or it may be created by law.

A private right of way must not be confused with a way of necessity which the law implies in favour of a grantee of land over the land of the grantor where there is no other way of getting to it.

(To be concluded.)

CONGRESS OF BUILDING SOCIETIES

ADDRESSING the Sixth International Congress of Building Societies at Zürich, the President (Sir Harold Bellman, M.B.E., J.P.) said that the three years which had elapsed since the Congress last met had been by no means uneventful, whether regarded from a domestic or a wider angle. Over a considerable part of the world, economic recovery reached a more advanced stage, only to suffer a set-back during the past 12 months; the building society movement itself had over a large area registered still further progress or at the least consolidated its position; and the international political scene had been charged with a high drama which, in some cases, had been an unsettling factor in the work of their movement. On the whole, however, there was much that was cheering, especially if they had regard to the persistence with which their ideals were championed in circumstances which were often far from encouraging.

The building society movement, declared the President, could not work miracles, but, given wise encouragement from above in appropriate cases, it had a mission of considerable value. Its capacity as an economic stimulus had been proved abundantly. The history of Britain's recovery from the depression of 1931-2 was very largely a history of her building societies and the housing activity to which they gave rise. Moreover—and this aspect required emphasis—it was a salutary stimulus in the sense that it increased the nation's capital assets in wholly desirable directions; and by broadening the basis of economic activity it strengthened the foundations of Governmental finance. Thus it was in direct contrast to the baneful stimulus provided by armament work considered as a stimulus, which left the State with no permanent worth-while asset and which often undermined national finance.

"Admittedly, any immediate vast and far-reaching extension of building society activity probably pre-supposes a rise in the current standards of living," said the President, "but even with existing standards there is apparently in not a few countries scope for the extension of well-organised building society services to cater for current requirements. Thus within these limits one is not banging at a barred door. Moreover, in the many countries where there is a secular tendency towards a rising standard of living the building society has a rôle of the highest utility."

LONDON BUILDING BY-LAWS—XXIX

By ALFRED H. BARNES, F.R.I.B.A., M.I.Struct.E., and C. ROLAND WOODS, M.B.E., LL.B.

PART VI.—REINFORCED CONCRETE.

(Continued.)

By-law No. 107 specifies a minimum distance between any two reinforcements to be not less than the diameter of either and not less than would exceed the largest size of aggregate by a quarter of an inch. It is further provided that the vertical distance between two horizontal main steel reinforcements, or the corresponding distance at right angles to two inclined main steel reinforcements, shall not be less than ½ in., except at a splice and except where one of such reinforcements is transverse to the other.

It is obvious that this proviso relates to reinforcements so situated that the one is more or less vertically above the other, and does not refer to rods horizontally remote from each other.

This agrees with Clause 504 of the D.S.I.R. Code except that the code makes no reference to oblique bars.

No. 58 of the Reinforced Concrete Regulations specified a distance of at least one inch horizontally and ½ in. vertically between the bars in beams. The Regulations did not regulate the spacing of bars otherwise than in beams.

The pitch of the distributing bars in a slab (the employment of which are required later by By-law No. 110) is specified as not more than four times the effective depth of the slab. This accords with both the D.S.I.R. Code and the old Regulations, as does (to all intents) the next requirement that mesh reinforcement shall be such as to afford proper combination with the concrete. (The Code, like the Regulations, requires the meshed reinforcement to be of such dimensions as to permit the coarse material to pass readily.)

By-law No. 109 requires a stirrup to pass round or to be otherwise secured to the tensile reinforcement and to be anchored at its ends, and is to the same effect as Clause 603 (b) (i) of the D.S.I.R. Code and No. 62 (e) of the Reinforced Concrete Regulations.

By-law No. 110 requires that where the span of a slab is in one direction only, distributing bars shall be employed having a minimum aggregate sectional area not less than one-tenth of the main tensile reinforcement, without any stipulation as to pitch. The D.S.I.R. Code requirement in this regard (Clause 601 (c)) placed the minimum aggregate area of distributing bars at 20 per cent. of the area of the main tensile reinforcement specifying a pitch not exceeding four times the effective depth of the slab. No. 78 of the Reinforced Concrete Regulations specified the area of distributing bars to be not less than 0.08 per cent. of the effective sectional area of the slab at a pitch of 18 in.; or, alternatively, to have a diameter not less than one sixteenth of the effective depth of the slab and to be disposed at a pitch of not more than four times the effective depth.

By-law No. 111, which is practically a copy of Clause 601 (d) of the Code, relates to compression reinforcement in beams and requires that when the compression resistance of the concrete is taken into account, such reinforcement shall be effectively anchored at distances not greater than 12 times the diameter of the anchored bar; and when the resistance of the concrete is taken into account 8 times the diameter of the anchored bar. In the latter case, it is specifically required that the anchorage reinforcement shall be hooked over both the compression and tensile reinforcements. Nos. 61 and 62 of the Reinforced Concrete Regulations spaced the anchors, in the case where the concrete was taken into account, at a distance not greater than the arm of the resistance moment and not more than 16 times the diameter of the anchored bar; and in the case where the concrete was not taken into account, not more than 6-in. centres nor more than 8 times the diameter of the anchored bar.

By-law No. 112 constitutes an example of one of those details in which the new by-laws aim at greater freedom by specifying the end to be attained rather than the means, which, though common practice, may not be the only means.

No. 48 of the Reinforced Concrete Regulations specified that the anchorage should be a U-shaped hook or right-angle bend, and gave particulars as to size. Clause 604 (c) of the D.S.I.R. Code contained a description of the U-hook evidently culled from the old Regulations; but sub-clause (d) stipulated the basis of calculation for an anchorage "when a hook is not used."

By-law No. 112 merely requires "hooks *and other anchorages* to be of such form, dimensions and arrangement as will ensure their adequacy without overstressing the concrete, or any other material." The Council's Memorandum on the Computation of Stresses indicates acceptable methods; but this (as previously noted) is not mandatory, and while removing the element of uncertainty leaves the door open for other methods.

Here follows by-law No. 113, placing a line of demarcation between by-laws Nos. 99 to 112 relating to the use of reinforced concrete in buildings wholly of reinforced concrete frame construction (save for party walls) and those relating to the use of reinforced concrete regarded as material for general construction. By-law No. 114 therefore prohibits the welding of reinforcements in *any* building "except in accordance with conditions prescribed by the Council in each particular case." This exception could have been omitted without affecting the by-laws, as such, one way or the other, since its purport is covered by Section 9 of the London Building Act (Amendment) Act of 1935, to which Section attention is drawn at the head of the by-laws. The mention of it in this way, as a sort of reminder, may therefore be regarded almost in the light of an invitation. The pathway of any prospective application is further smoothed by the publication of the Regulations* made by the Council on December 7, 1937 (before the by-laws were made), relating to applications for modifications or waivers of (*inter alia*) By-law No. 114 "so as to permit the use of electric (metal) arc welding."

The by-law specifically permits electrically welded mesh reinforcement, however, subject to the bars not exceeding 0.4 in. diameter, the material being welded at the factory and the district surveyor being satisfied as to its suitability.

Heretofore, the welding of tensile reinforcement has been prohibited by No. 167 of the Reinforced Concrete Regulations.

No. 170 of the Reinforced Concrete Regulations placed definite limits on the permissible deflection of beams and slabs under loading. The basis was 1/600th of the span on a freely supported beam spanning twenty times its effective depth with a proportionate limitation in regard to other relative spans and end conditions.

No specific requirement of this nature is included in the by-laws relating to reinforced concrete, but by-law No. 115 places the limitation of permissible deflection due to bending action within the discretion of the district surveyor, and No. 116 similarly delegates the control of lateral flexure in the case of reinforced concrete in compression.

Workmanship.

Part X of the old Regulations was devoted to "Workmanship," and specified the manner in which reinforced concrete was to be carried out. Much that was contained in this part of the Regulations is now covered in the earlier parts of the by-laws relating to concrete; but a comprehensive by-law, No. 117, has been included in the new reinforced concrete by-laws requiring that the fabrication be so carried out as to warrant the stresses prescribed.

Tests.

The old Reinforced Concrete Regulations dealt with "Tests and Testing" in Nos. 169, 170, 171 and 172. They called for tests "if found necessary," "at any time during the construction or within two months after the completion of the reinforced concrete construction." They went on to limit the imposed load in any such test, and No. 172 forbade loading tests on reinforced concrete within the expiry of ninety days from the day of laying the concrete. In the event of failure the work had to be "reconstructed and reinstated in accordance with these Regulations."

By-law No. 118 invests the district surveyor with power where he finds "substantial reason for doubt as to the sufficiency or suitability of the reinforced concrete for its purposes under these by-laws" to demand such test or tests as he may require, and the criteria of results are subject to the opinion of the district surveyor without stipulation as to limit of loading, maximum deflection, limit of period wherein such tests may be demanded or of the maturity of the concrete. Should failure result, it is required that "such concrete shall be removed and replaced with reinforced concrete which complies with these by-laws."

Electrical Currents.

It may be remarked that the by-laws relating to reinforced concrete do not contain the usual prohibition (as in No. 5 of the old Regulations) of the employment of reinforcements for conducting electrical currents. This will be found to be covered by by-law No. 151 in Part VIII relative to structural metal generally. It should be noted that the requirement is therein modified by a proviso permitting the inclusion of structural metal "as part of a sufficient and properly earthed apparatus for protection of the building against damage by lightning."

(To be continued.)

* No. 3318. To be obtained from P. S. King, Ltd., 14, Great Smith-street, Victoria-street, Westminster, S.W.1. Price 3d.

Reinforced Concrete Floating Girders.

We have received from Dr. Alfred Varni, of Pallanza, Italy, a copy of the illustrated text of his study on big floating one-piece continuous girders made of reinforced concrete in water, which, we learn, may be made of any length and to sustain any load, and can be used in the construction of bridges across lakes, lagoons, estuaries, fjords, sheltered maritime straits, and of wharves and other harbour works. Dr. Varni states that he is prepared to negotiate for the use of his system in this country.

THE SAFETY OF PERSONNEL EMPLOYED ON BUILDINGS.

By CLIFFORD W. CRASKE, A.R.I.B.A.

II.

Regulations Applying to Hoisting Machinery.

THE hoisting or transporting of plant and material on a building site by mechanical means is attended by many risks, and is, perhaps, the most common potential cause of serious accident.

The Statutory Rules and Orders already referred to lay down regulations in great detail, covering this part of the subject. In No. 738, however, many of the clauses have been superseded by corresponding clauses in No. 819; and in the former set attention need only be directed to clauses numbered 43-51. An analysis of the relevant provisions in both sets of Orders enables them to be grouped as follows :—

(*a*) Rules governing the construction, testing and maintenance of cranes, hoists and similar plant.

(*b*) Precautions against unsafe or improper use of such plant—with special reference to safe working loads, safeguards against failure of hoisting machines, and the fall of materials therefrom.

(*c*) Registration of all mechanical hoisting plant in use, and its periodical examination; registration and reporting of certain disabling accidents to personnel, and provision for first aid.

Taking groups (*a*) and (*b*), the Orders numbered 819 begin with general rules for cranes, including the proper laying of rails on which a travelling crane may run. Then follow regulations applying to various kinds of derrick-cranes, and particular reference is made to all such machines manufactured since September 30, 1931. These must, in general, comply with the British Standard Specification No. 327 of 1930. Derrick-cranes, of which the manufacture was completed before the specified date, are only allowed to be used subject to competent testing; and the person making the test is required to certify, on a prescribed form, that the machine is fit for use, subject to given working loads and other technical particulars. There is also an obligation to bring any such crane (having no timber structural member) up to the requirements of the British Standard Specification, as far as may be reasonably practicable, either by strengthening the working parts, or by reducing the amounts of the loads lifted. Further restrictions of a similar kind govern the use of cranes converted from hand to mechanical power; also those which possess any timber structural members. Rules are given for the marking of safe working loads on cranes of certain types, as well as on certain chains, hooks, and other items of hoisting machinery.

Provision for examination and testing, before and after erection, form an important part of these regulations, and details are given to ensure the mechanical soundness and stability of any machine of the crane type that may be brought on the site.

These complex technical details cannot safely be condensed into tabular form, as was found possible with the simpler rules for scaffolding; and there is no alternative, for every person responsible for the safety of cranes and similar heavy hoisting machinery, but to study each clause of the S.R.O.s carefully, and consider how far it may apply to the plant under his control.

From the point of view of the architect, as well as of the general contractor as a rule, it is fortunate that such heavy hoisting appliances as those above referred to are generally the subject of a hiring contract with a specialist firm—the direct responsibility thus passing into other hands. It is not at all unusual, however, for one or more of the smaller type of hoisting machines to be purchased outright, for use in ordinary contracts or direct labour work; and in such cases the responsibility for proper use and maintenance must be faced. It will therefore be well worth while to tabulate the particular regulations which must be studied, classifying them for the sake of clearness as previously suggested.

(*a*) **Hoisting machines: their construction, testing and precautions to be taken before using:—**

Digest of Clauses.	Order.	No. of Clause.
Flywheel of engine, and other parts liable to be dangerous, to be fenced	738	45
Whole apparatus to be "of good mechanical construction, sound material, and free from patent defects"	819	4
Hoisting ropes and chains to be securely fastened	819	11 a
No knot allowed in chain ...	819	15 b
Chain to be securely attached to hook, not merely wrapped round same	819	15 c
Chains, rings, hooks, shackles, and swivels to have been tested, and to be regularly inspected ... ... (If of iron, note special provisions in same clause.)	819	13 a. b
No rope to be used over a pulley-block if its diameter exceeds that of the block's groove width	819	11 c
Hoisting hooks to have either a spring catch, or be twisted so as to lessen risk of displacement when in use	819	14
Double or multiple slings to be connected to a ring, not put separately into a lifting hook	819	15 a
(*b*) **The safe use of hoisting plant:**		
No basket to depend for support solely on its handles	738	43
No attachment to be made to wheel of a barrow without making sure that wheel cannot slip through its bearing	738	43
Box used for hoisting bricks or other loose material to be closed in on three sides at least (one side may be hinged or slotted)	819	20
No person to be lifted or carried by a hod-hoist or hoisted barrow (proviso allowing the use for this purpose of a skip or bucket, subject to precautions)	819	24
Safe working load of any hoisting appliance not to be exceeded, except when carrying out tests	819	12 a
(*c*) **Registration of machinery; treatment, registration and reporting of accidents:—**		
All hoisting machinery to be examined once a week, and result entered in register ...	819	4
Particulars of chains, etc., to be entered in register	819	13
Anchorage tests of cranes to be entered in register	819	5 k
Where register is to be kept—(normally on the site; failing that, at contractor's head office. Register to be available for official inspection)... (Note : The register referred to is known as Form 91.)	819	21
First-aid boxes to be provided on site	738	47
Particulars of any accident whereby a person is disabled for more than three days to be registered, and official report forwarded.—Instructions given on Form 91.		

Registering of Accidents, Workmen's Compensation Acts.

It should be noted that even on jobs where no hoisting plant worked by mechanical power is employed, there is still a statutory obligation to register every accident to a workman, under the provisions of the above-named Acts. The prescribed form for this register is No. 85a.

Every accident reported by a workman should be registered, whether serious or apparently of a trivial nature. The injured workman should sign the entry where possible, and, if a witness to the accident is available, his signature should also be obtained.

Risks that minor injuries may be neglected, and later on become more serious, are very much increased by the natural reluctance of most men to report such mishaps, for fear of being thought over-cautious. It is therefore a good plan to have a notice prominently displayed on the works, requiring the reporting of any accident, however slight, as a part of the employee's duty.

Risks in Hoisting.

Looking at the actual practical risks involved in the use of ordinary hoisting machinery, as employed by the general contractor, or by the architect employed in direct labour work, there appear in the present writer's experience to be two main principles to be borne in mind :—

First, the hoisting of loose material (such as bricks) in barrows entails the constant risk that fragments may be dislodged when swinging the barrow on to the unloading platform. In hoisting machines of the moving platform type this risk hardly arises; but with the commoner method, in which the loaded barrow is simply attached to chains and then raised, all persons concerned should be alive to this danger, which can be prevented by proper care and attention.

In the second place, constant vigilance is needed in the inspection of ropes, chains, slings, and all other parts of the equipment—particularly such parts as are subject to rubbing or friction. The first sign of fraying in a wire rope should be noted; and in the case of chain slings used repeatedly for attachment to a steel barrow, it may be found that one or more of the links are becoming unduly worn, through always being in contact with the barrow-rim. Knots are sometimes ignorantly made in hoisting ropes; and thimbles, which ease the wear and tear on the bight, may be missing. In each case there is the possibility of trouble unless the matter is promptly set right.

(*To be concluded.*)

EDIFICE GOLFING SOCIETY OF SUSSEX

Twenty-five members of the Edifice Golfing Society of Sussex competed for the Harris-Pearson Challenge Cup at Nevill Golf Club, Tunbridge Wells, on September 8.

A. W. Avery, Harold Brown and S. J. Williams tied for first place with scores of 77. The cup was presented by the President, Mr A. Stanley Watts, to Mr. Avery, who had the best score for the last nine holes.

Other scores were :—A. C. Franklyn, 84−5=79; H. G. Wallis, 85−6=79; H. H. Ridge, 91−12=79; L. H. Elliott, 91−12=79; G. C. B. Titcomb, 90−10=80; G. S. Selmes, 93−13=80; M. P. Harris, 96−16=80; A. Padgham, 92−11=81; A. H. Burton, 93−12=81; T. Wallis, 101−20=81; E. W. Mines, 94−12=82; G. F. Hinton, 95−13=82; H. Watts, 99−17=82; R. A. Howell, 82+1=83; W. Lynn, 90−6=84; N. Longley, 98−14=84; and S. C. Lynn, 101−14=87.

Architects, builders and builders' merchants in Sussex are eligible for election to the Society. Full particulars can be obtained from the Hon. Secretary, Mr. A. C. Franklyn, "White Walls," Pashley-road, Eastbourne.

G.W.R. Station Improvements.

The Great Western Railway Company are to carry out improvements to the main booking office and booking hall at Slough Station to cater for the volume of traffic which has increased by 60 per cent. since 1933. Improvements are also to be carried out to the refreshment rooms on the island platform.

BOOK REVIEWS

New L.C.C. By-Laws for Reinforced Concrete. By CHAS. E. REYNOLDS, B.Sc., A.M.Inst.C.E. (Concrete Publications, Ltd., 14, Dartmouth-street, S.W.1.) Price 8s. 6d. net.

Worked examples of reinforced concrete design in accordance with the new London County Council By-laws which came into force this year, as well as in accordance with the Code of Practice for Reinforced Concrete of 1934, are given in this volume, which includes 272 pages, 65 illustrations, 101 design tables and calculation sheets. The new L.C.C. By-laws are printed in the book by permission of the Council. Among the aids to design are charts and tables for the new superimposed loads; tabulated resistance moment factors, economic percentages, neutral axis depths, and lever arms for all permissible stresses; tabulated B.M.s for uniform and point loads with some or all spans loaded and various ratios of dead to live load; effect of end moments; column tables giving (1) size and spacing of main and lateral reinforcement, (2) safe loads on any column of ordinary or quality "A" concrete in the three specified mixes, (3) reduced loads on long columns, (4) helical binding, and (5) combined stress; and charts and tables for rectangular slabs, flat slabs, shear, distribution steel, etc. The calculation sheets are arranged in accordance with the practice of leading reinforced concrete designers.

A complete design of a six-storey building with a basement is included, with detail drawings and full calculations for both regulations, comprising alternative designs for beam-and-slab, flat-slab, and two-way reinforced concrete floors; floor design for the alternative concentrated loads in the by-laws; detailed treatment of bending in columns; application of new by-law for punching shear in footings; design of isolated, combined and raft foundations; design of basement retaining walls; and details of design of staircase, tank, etc. The author has aimed at giving a complete guide to modern design in reinforced concrete.

Timber, Its Structure and Properties. By H. E. DESCH, P.A.S.I., B.Sc., M.A. (London: Macmillan & Co., Ltd.) Price 12s. 6d. net.

Conversations with architects, surveyors and building contractors convinced the author that a simple, concise account of the work accomplished by timber research laboratories would be of practical value, and led to the writing of this book. Technical terms have been avoided as far as possible, and while no claim of originality for the subject-matter is made, it having been compiled from standard works and the numerous publications issued from time to time by the different research laboratories, the abridgment of existing information in a simple form between two covers will be found of considerable practical value.

Flats: Design and Equipment. By H. INGHAM ASHWORTH, B.A., A.R.I.B.A., with a Foreword by the RT. HON. ARTHUR GREENWOOD, P.C., M.P. (London: Sir Isaac Pitman & Sons, Ltd.) Price 25s. net.

In this book is collected a wealth of facts, data, plans, etc., relevant to the planning and equipment of the flat. The author has been successful in his endeavours to set out the main considerations in connection with planning and equipment, and by means of illustrations of blocks of flats already erected, both in this country and on the Continent, to form a useful record of contemporary design and planning. The book places in small compass before architects, surveyors, builders, etc., a comprehensive idea of the essentials to be considered in any proposed scheme of development.

Building Laws, By-Laws and Regulations. By B. PRICE DAVIES, F.S.I., F.R.I.B.A., etc. (Cardiff: The Building Estimator Publications.) Price 24s. 6d. net.

Although this work has been compiled in response to an appeal from surveyors of local authorities as the result of the revision of existing building by-laws of all local authorities before July 31, 1939, it is by no means confined to the task of aiding in such revision, for it sets out to resolve legal phraseology, with the aid of diagrams, into ordinary language. Its principal use is intended for the administration of building legislation and to indicate the useful range of standards of construction available.

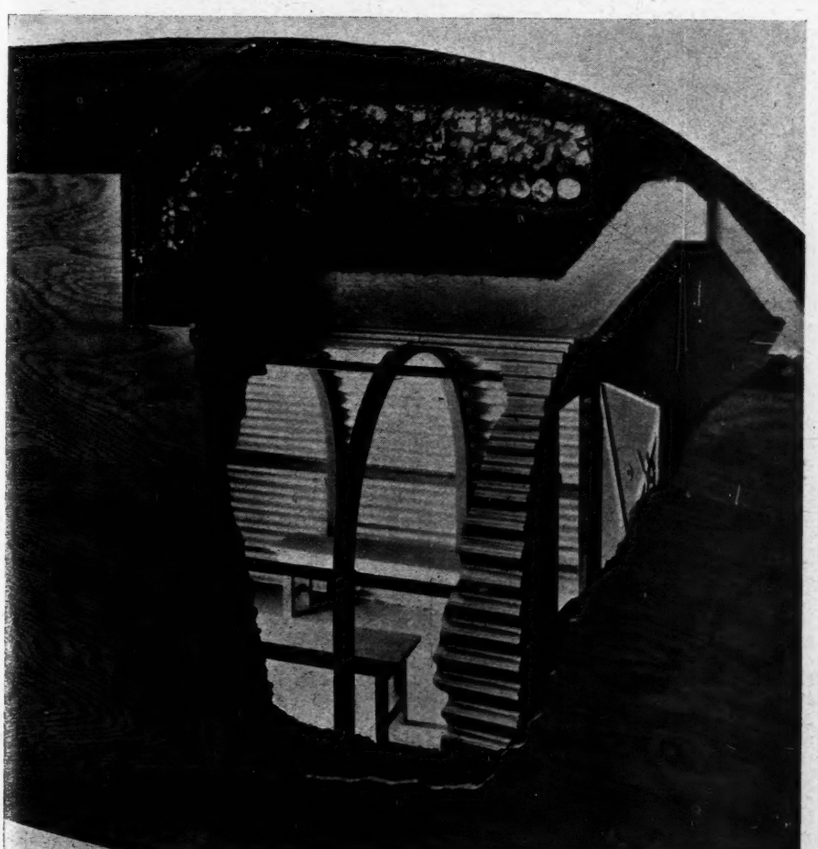
BOOKS RECEIVED.

Painting From A to Z. (2nd edition). By James Lawrance. (Manchester: The Sutherland Publishing Co., Ltd.) Price 15s.

National Certificate Mathematics. (3 vols.) By P. Abbott and C. E. Kerridge. (London: The English Universities Press, Ltd.). Prices: Vol. 1, 6s.; Vols. 2 and 3, 7s. 6d. each.

A.R.P. By J. B. S. Haldane, F.R.S. (London: Victor Gollancz, Ltd.) Price 7s. 6d.

Any of the above books may be obtained through the Publisher, The Builder, 4, Catherine-street, W.C.2, or at Stand 110, Row F, at the Building Exhibition.



A "HEAVY DUTY" BASEMENT AIR RAID SHELTER.

(See this page.)

AIR RAID SHELTERS

AN EXHIBITION OF MODELS.

AN interesting display of scale models of air raid shelter constructions was opened on Monday at the Hotel Victoria, Northumberland-avenue, W.C., by the British Steelwork Association, Steel House, Tothill-street, S.W.1.

The Inspector-General of Air Raid Precautions, Wing-Commander E. J. Hodsoll, C.B., who presided at the opening ceremony, said that the problem of the design and construction of air raid shelters was a new one, and any knowledge which was going to be to the advantage of the country was of great value. The models on view were, therefore, of particular interest, especially the one showing how to convert the basement of an existing building into an air raid shelter. Most people in industry in this country found it impossible to construct new and special air raid shelters and so had to improvise; the models exhibited were examples of how this could be done.

Mr. James Henderson, President of the British Steelwork Association, said that the Association, in studying the question of A.R.P., were concerned to show in what way the normal everyday products of the industry could be easily applied to the constructional aspects of air raid protection.

For the whole range of protective accommodation, from important key-points to the simple shelter within the means of all, the resources of the industry, the speaker suggested, were ample. The models displayed would be on view at the Building Exhibition and afterwards on loan to A.R.P. organisations, local authorities, etc. They were each built up of standard units and were, therefore, readily available and readily applicable in practice. No attempt had been made with the models to cope with the problem of direct hits from the heaviest of high explosive bombs. That was a matter for special design. The constructions on view were concerned with the more general problem of the maximum of safety at the most economic price.

The models shown were five in number and included (1) a model of a steel frame block of slum clearance flats showing various A.R.P. details of construction and basement air raid shelters. (2) A section of a shelter, using dovetail sheets. (3) An air raid shelter constructed of standard steel mine arches and corrugated steel sheets, incorporating gas-proof steel doors. (4) The "Everyman's" shelter garden trench, described as the simplest and cheapest shelter. (5) The "Heavy Duty" basement air raid shelter, constructed with steel mine arches with galvanised corrugated sheet backing and an overhead layer of timber, rubble and earth, to act as a bursting course.

Emphasis was laid on the use of steel arches, as used in coalmines, etc., for providing A.R.P. shelters.

INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.
We do not undertake to reply to inquiries concerning proprietary materials.—ED.

QUESTIONS.

Gas Cookers.

SIR,—I note that gas cookers are rarely ventilated into the open air nowadays, and wonder whether this is the result of more perfect combustion in modern fittings, leading to a reduction of harmful fumes. I should be glad of information as to the amount of harmful fumes which the average cooker gives off into a given space, and the proportionate amount of such fumes in a given quantity of pure air which would constitute unhealthy conditions. Apparently a modern gas oven thermostatically controlled must not be directly ventilated into the open air.

CONSUMER.

Plaster Board.

SIR,—The practice of using plaster board as a basis for skimming in place of lathwork and plaster backing seems to be on the increase. Information is required as to the following points from experience in use: (1) Is there a tendency for the skimming to flake off? (2) Is there less cracking than in ordinary lathwork? (3) Is there a tendency to crack at the joints? (4) How does the cost compare with that for lathwork?

SUPERVISION.

Boundaries.

SIR,—I have understood that where a bank and a ditch occur on the boundary of a property, and in the absence of any other evidence, the boundary is assumed to be the far side of the ditch to that upon which the bank occurs. The assumption is, quite reasonably, that the ditch was first dug against the boundary on the land of one owner, who caused the excavated earth to be thrown upon his land. In course of time the edges of the ditch will have become eroded and the width of the ditch widened beyond the original boundary. What I would like to know is whether there is any generally accepted standard width for such ditches whereby the boundary can be accurately determined from the centre of the ditch if its edges have become vague.

SURVEYOR.

Box Rooms.

SIR,—If a new building contains a box-room which does not conform with the by-laws for habitable rooms as to height or proportion of flat ceiling, or ventilation, etc., is there any law to prevent that room being subsequently used for living purposes after a habitation certificate has been granted?

PLANS.

ANSWERS.

The Mixing of Limewhite.

[ANSWERS TO "G. B.," SEPTEMBER 9.]

SIR,—I have found that the old-fashioned use of Russian tallow is preferable to any other "fixing" medium, if properly added. Quick lime, when mixed, will retain sufficient heat to hold the molten tallow in flux until applied, but the limewhite must be used immediately it is mixed. The tallow should be completely melted and stirred in. If properly done this will give a thoroughly fast coat. The use of white cement as a cement wash is a good modern alternative.

METHOD.

SIR,—Take some lump lime and slake it with a sufficient quantity of water, then add enough water to make a milk. Hydrated lime can be used in proportions of 5 lb. of lime to each gallon of water. To improve the adhesive quality add 1 lb. of powdered tallow, free from salt, to each bushel of lime.

W. E. W.

Electric Water Heaters.

[ANSWER TO "UNITS," SEPTEMBER 9.]

SIR,—I would advise that the electric water-heater be left switched on all the time. It is immaterial whether the current be consumed in, say, two or three short spells of three minutes each, as would be the case with automatic switching, or in one longer period of, say, six or nine minutes, as would occur in the morning when the heater is switched on. If an electric water-heater is to be used to its full capacity without any limitation on the amount of water available, it is more economical to leave it switched on all the time. Hand switching will not reduce the consumption, but will cause unnecessary inconvenience. It is possible to effect economies by hand switching, but this is always done by limiting the amount of hot water available. The correct method to practise economy with an electric water-heater is to use hot water only when it is absolutely necessary. The heater will do the rest, as the consumption of electricity is almost in direct proportion to the amount of hot water used.

A. J. T. E.

SCHOOL NEWS

BARTLETT SCHOOL OF ARCHITECTURE.

The 1938-39 session of the Bartlett School of Architecture and Town Planning, University College, University of London, commences on October 3. Intending students should apply to the Secretary as early as possible. Each application should state the school or schools at which the student has been previously educated.

COURSES OF STUDY.—The following courses are provided: 1. The B.A. (Architecture) Degree Course of the University. 2. The Certificate Course in Architecture. 3. The Diploma Course in Architecture. 4. Advanced Design Class. 5. Evening Courses in Design and Construction of Modern Buildings. 6. The Atelier. 7. The Certificate Course in Town Planning. 8. The Diploma Course in Town Planning and Civic Architecture. 9. The Diploma Course in Town Planning and Civic Engineering. The Certificate Course in Decoration.

The Degree, Diploma and Certificate Courses are arranged to provide students with that systematic, practical training which is approved and recommended by the Board of Architectural Education of the R.I.B.A. Exemption from its Intermediate Examination is granted by the R.I.B.A. to students who receive a First Class College Certificate, and from its Final Examination (qualifying as Associate R.I.B.A.) to students who obtain the Degree or the Diploma (and who have passed an examination in professional practice). Full details of all courses are obtainable from the Secretary, University College, Gower-street, W.C.1.

L.C.C. HAMMERSMITH SCHOOL OF BUILDING.

Classes at the L.C.C. School of Building and Arts and Crafts, Hammersmith, will commence on September 26. Evening courses are provided for those persons who are engaged in any branch of the building trade or allied professions. Courses are conducted as follows: National Certificate Course, General Courses, Trade Courses, Part-time Apprentice Courses.

The National Certificate Course in Building has been framed in order to encourage instruction in technology, commercial practice and administrative organisation of the building industry. General courses are suitable for those students engaged in professional occupations connected with the industry, and also for those who desire a course of instruction in general building subjects. Trade courses are arranged for youths who are engaged in the building trades. The Theory Classes throughout these courses consist of lectures and include drawing and building construction. The Intermediate and Final examinations conducted by the City and Guilds of London Institute may be taken at the end of the second and fourth year respectively if the student has shown the necessary efficiency and obtained a satisfactory training in his particular craft. Trade courses are available in brickwork, masonry, carpentry and joinery, wood-cutting, machining, plasterwork, plumbing, painting and decorating, upholstery, heating and ventilating—designers, and heating and ventilating for operatives.

Full particulars on all classes can be obtained upon application to the Principal at the School, Lime-grove, W.12.

MANCHESTER EDUCATION COMMITTEE.

A Student's Guide.

A "Student's Guide," published by the Regional Advisory Council for Technical and other forms of Further Education, gives detailed information regarding facilities for building education in the district in and around Manchester for the 1938-39 session.

The "Guide" is primarily intended for employers, present and prospective employees, education officers, and principals and staffs of technical institutions. Further information concerning the "Guide" may be obtained from the Director of Education, Education Offices, Deansgate, Manchester, 3.

EAST HAM TECHNICAL COLLEGE.

Among the branches of science and technology in which systematic part-time (evening) instruction is provided at the East Ham Technical College are the following: Building, carpentry and joinery, plasterers' work, plumbing, acetylene welding, electrical engineering, electrical installation work, mechanical engineering, structural engineering, land surveying and levelling. The head of the Department of Building is Mr. M. C. Heath, M.I.O.B., M.R.San.I., A.M.I.S.E.

The 1938-39 session commences on Monday, September 19. Further details of courses available may be obtained from the Principal, East Ham Technical College, Barking-road, E.

L.C.C. SCHOOL OF BUILDING, BRIXTON.

Evening classes at the London County Council School of Building, Brixton, begin on Monday, September 26.

The various departments of the school provide organised courses of training and individual classes for the purpose of instruction in the work of the building industry and of allied vocations and professions.

For the benefit of students who have interests in two departments of the school, close co-ordination of the work of the departments is maintained. This applies particularly to architecture and building.

The Institute of Builders and the Board of Education have approved certain part-time courses for National Certificate awards. In all the approved courses an Ordinary National Certificate may be gained by three years' successful study in a senior course, and a Higher National Certificate for two years' successful study in an advanced course.

Further details may be obtained from the Secretary, Mr. H. N. Hawley, School of Building, Ferndale-road, Brixton, S.W.4.

COLLEGE OF TECHNOLOGY, MANCHESTER.

The prospectus of the University courses in the Municipal College of Technology, Manchester, for the Session 1938-39, has just been issued. The college offers systematic training in the principles of science and art as applied to mechanical engineering, electrical engineering, municipal engineering, the building industry, the chemical industries, mining, painting, etc. The course for building is a three-year one under the direction of Mr. W. B. McKay, M.Sc.Tech., M.I.Struct.E.

Courses for the 1938-39 Sessions commence on October 6.

WANDSWORTH TECHNICAL INSTITUTE.

A comprehensive course in building subjects is available at Wandsworth Technical Institute, High-street, S.W.18, where evening classes commence on Monday, September 26. The course includes building construction, building mathematics and geometry, building science, sanitary science, analysis of pricing and estimating, builders' book-keeping, builders' quantities, materials and graphics, carpentry and joinery, handrailing and staircasing, plumbing, plumbing science, geometry and drawing for plumbers, painting and decorating, and plastering.

Courses in building, surveying, etc., are available for those taking the examinations for National Certificates, the Surveyors' Institution and the Institute of Builders.

The Head of the Building Department is Mr. S. P. Sartain, A.R.I.B.A., M.R.San.I.

NEW BUILDINGS IN LONDON

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

ACTON. — FIRE STATION. — The T.C. has accepted the tender of Messrs. Perry's (Ealing), Ltd., 75, Uxbridge-road, Ealing, W.5, at £43,200 for a new fire brigade headquarters, station, 19 dwelling-houses, drill-tower, etc., in Gunnersbury-avenue. Plans are by Mr. W. G. Cross, M.Inst.C.E., Town Hall. The quantity surveyors are Messrs. John Leaning and Sons, 28, John-street, W.C.1.

BARKING.—SHOPS AND FLATS.—Are to be erected in London-road to the plans of Mr. W. Newcome Wright, 164, Bishopsgate, E.C.2. No contracts placed.

BATTERSEA.—ADDITIONS.—Are to be made to the Stanley Restaurant, 51-53, Lavender-gardens, S.W., for Messrs. A. J. Carpenter (London), Ltd. The contractors are Messrs. Bovis, Ltd., 82, South Audley-street, and the architect is Mr. Gerald Shenstone, F.R.I.B.A., 34, Bloomsbury-way, W.C.1.

BELLINGHAM.—SCHOOL.—The Lewisham B.C. has received notice from the L.C.C. of their intention to provide a new public elementary school for about 440 junior and infant children at Bellingham.

BELLINGHAM. — SHOPS. — Mr. Albert Frampton, Bromley Hill estate office, Bromley, is to erect shops and flats in Southend-lane.

BEXLEY. — HOUSES. — 94 houses and bungalows in Glenmore-road, East Wickham, are to be built for the T.C. Mr. G. A. Joy, F.S.I., M.Inst.M. and Cy.E., Borough Engineer and Surveyor, has prepared the plans, and a contract has been placed with Messrs. S. H. Alabaster, Ltd., Roseacre-road, Welling, at £36,223.

BEXLEYHEATH.—DRILL HALL.—And district headquarters are to be erected in Watling-street for the County of Kent Territorial Army and Air Force Association. The architects are Messrs. Hoare and Wheeler, 15, Portman-street, Portman-square, W.1, and a building contract has been placed with Messrs. George Parker and Sons, 124, Sumner-road, S.E.15.

BRENTFORD. — EXTENSIONS. — Messrs. R. B. Pullen and Co., Ltd., have under consideration further extensions to their factory in the Great West-road. Plans have been prepared by Messrs. Tubbs, Duncan and Osburn, 16, Harpur-street, W.C.1. No contracts let.

BRENTFORD.—GARAGE.—Mr. E. P. Platt, L.R.I.B.A., 161, Peppard-road, Caversham, Reading, is the architect for a garage, to be built on the Great Western Railway Estate, Great West-road, and subject to amendments, the tender of Messrs. E. Plaistowe and Sons, Ltd., South-road, Southall, has been accepted at £2,830.

BROMLEY. — PREMISES. — Mr. Albert Frampton, Bromley Hill estate office, has had plans approved by the Lewisham B.C. for a filling station, etc., at Bromley Hill.

CATFORD.—HOUSES.—The Lewisham B.C. has approved plans by Messrs. Wates, Ltd., 1258, London-road, Norbury, S.W.16, for 60 houses in Woodham-road and for houses in Beachborough-road.

CATFORD.—PETROL STATION.—Mr. Bernard Chalk, L.R.I.B.A., 24, Coleman-street, E.C.2, is the architect for a garage and petrol station to be erected at 13-19, Rushey Green. No contracts yet placed.

CHARLOTTE - STREET. — PREMISES. — Messrs. J. Ashton and Sons, 109, Stoke Newington-road, N.16, are demolishing premises in Charlotte-street and Rathbone-street, W.1, to make way for new premises to be erected from plans prepared by Mr. A. G. Moulton, 265, Commercial-road, E.1.

CHISWICK HIGH-ROAD. — FACTORY. — Messrs. Y. Goldberg and Son, Ltd., Blenheim Wharf, Eagle Wharf-road, Hoxton, N.1, propose to build a factory and offices at the rear of Nos. 207-208. Plans by Mr. J. S. Field, of the company. No contracts.

COULSDON.—PUBLIC-HOUSE.—To be called the "Tudor Rose Hotel," is to be erected for Messrs. Page and Overton's Brewery Co., Ltd., 19, Surrey-street, Croydon. The contract has been placed with Messrs. W. H. Gaze and Sons, Ltd., High-street, Kingston. Plans have been prepared by Messrs. Hayward and Maynard, FF.R.I.B.A., 14, John-street, W.C.2.

CROYDON.—EXTENSIONS.—Are to be made to the transformer station at Beddington for the Central Electricity Board. The contract has been placed with Messrs. Holloway Bros. (London), Ltd., Bridge-wharf, Millbank, S.W.1. The consulting engineers are Messrs. Merz and McLellan, 32, Victoria-street, S.W.1.

CROYDON.—PREMISES.—Messrs. A. and V. Burr, 85, Gower-street, W.C.1, have just been appointed architects for the new premises to be erected in Wellesley-road, for the Phœnix Assurance Co., Ltd., Phœnix House, King William-street, E.C.4.

CROYDON.—SCHOOL.—The C.B. are inviting tenders for a public elementary school to accommodate 300 scholars in Overbury-crescent (off Lodge-lane), Addington.

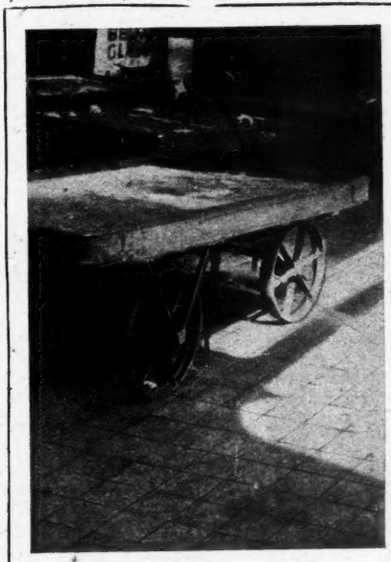
DAGENHAM. — PUBLIC-HOUSE. — Messrs. Courage and Co., Ltd., Horselydown, S.E.1, are to build a new public-house to be called the "Admiral Vernon," in Broad-street, for which plans have been prepared by the brewery architect, Mr. F. M. Kirby, F.R.I.B.A. Messrs. H. and J. Taylor (Contractors), Ltd., Canada House, Hither Green-lane, Lewisham, S.E.13, are the builders.

DARTFORD. — EXTENSIONS. — Including large engineering workshops, are to be made by Messrs. J. C. Beadle, Ltd., Spital-street. Plans have been prepared by Messrs. Peter D. Stonham and Son, F.R.I.B.A., Hadley House, Upperton-road, Eastbourne.

DEPTFORD. — EXTENSIONS. — Mr. H. A. Scrase, 16, St. Helen's-place, E.C.3, is the architect for an extension to the club premises at 367-9, Queen's-road. No contracts placed.

DEPTFORD. — BUILDINGS. — Messrs. Howard Leicester and Partners, 6, Southampton-street, W.C.1, are the architects and Messrs. Walter Lawrence and Son, Ltd., 31, Sun-street, E.C.2, are the builders for a one-storey mess room and uniform room building and a block of two one-storey store buildings at the New Cross Stadium, Hornshay-street.

EAST HAM.—FLATS.—A contract has been placed with Messrs. H. Fairweather and Co., 7, John-street, W.C.1, for the 36 flats in High-street South, between Johnstone and Charlemont-roads. The architect is Mr. W. Braxton Sinclair, F.R.I.B.A., Craig Court House, Craig-court, S.W.1.



EAST HAM.—PREMISES.—Messrs. Trussed Concrete Steel Co., Ltd., Horseferry House, S.W.1, have been appointed reinforced concrete engineers for a section house for the Metropolitan Police. The architect is Mr. Brian O'Rorke, M.A., F.R.I.B.A., 4, Golden-square, W.1. No contracts placed.

EDGWARE. — REBUILDING. — Edgware Station is to be rebuilt for the L.P.T.B., 55, Broadway, S.W.1. Chief architect is Mr. S. A. Heaps. The cost is estimated at £250,000. The contract for preliminary engineering works has been placed with Messrs. Fletcher and Co. (Contractors), Ltd., Forest avenue, Mansfield.

EDMONTON.—HOUSES.—354 houses are to be built in Hoe-lane, Enfield, for the T.C. by the Direct Labour Department under the supervision of the Borough Engineer and Surveyor.

ELTHAM. — PUBLIC-HOUSE. — Messrs. Charles Beasley's North Kent Brewery Co., Lakesdale-road, Woolwich, S.E.18, have placed a contract with Messrs. Halse and Son, Ltd., 5, Chapel-street, Woolwich, S.E.18, for a public-house, to be called the "Dutch House," in Sidcup-road, S.E. Plans have been prepared by Messrs. Eley and Allan, 83, Powis-street, Woolwich, S.E.18.

FINCHLEY.—ADDITIONS.—Consisting of a new isolation ward, are proposed at the Finchley Memorial Hospital, Bow-lane, N.12, by the governors. Plans have been prepared by Messrs. Bethell and Swannell, 16A, John-street, W.C.2. No contracts let.

HACKNEY. — PREMISES. — A new section house is to be erected in Mare-street, E.8, for the Metropolitan Police. The architects are Messrs. Farquharson and McMorran, F/A.R.I.B.A., 14, North Audley-street, W.1. Messrs. Trussed Concrete Steel Co., Ltd., Horseferry House, S.W.1, are the reinforced concrete engineers.

HALKIN-STREET.— REBUILDING.—Messrs. F. G. Minter, Ltd., Ferry-works, Putney, S.W.15, are rebuilding premises at the corner of Halkin-street and Montrose-place, S.W.1. The architects are Messrs. Gunton and Gunton, St. Martin's-le-Grand, E.C.1.

HEMEL HEMPSTEAD.—ADDITIONS.—Including new children's ward, are to be erected at the West Herts Hospital, to the plans of Messrs. Paine and Hobday, FF.R.I.B.A., 2, Millbank House, Millbank, S.W.1. The contractors are Messrs. L. and W. Whitehead, Ltd., 169, Clapham-road, Stockwell, S.W.9.

HIGH HOLBORN.—ADDITIONS.—Are to be made to the "White Horse" public-house, for Messrs. Barclay, Perkins and Co., Ltd., Park-street, Southwark, S.E.1, to plans prepared by the company's architect. The contractors are Messrs. H. D. Harding, Ltd., 5, Vassall-road, S.W.9.

HOUNSLOW. — PREMISES. — Mr. H. C. Wilkerson, L.R.I.B.A., 5, Duke-street, W.C.2, is the architect for new printing works in Hanworth-road. The builder is Mr. A. L. Lewey, 112, Hanworth-road, Hounslow.

KING'S CROSS.—EXTENSIONS.—Are to be made to the factory and offices in Britannia-street, for Messrs. C. A. and A. W. Haward. The contract has been let to Messrs. Mattock and Parsons, Ltd., 165, Gray's Inn-road, W.C.1, and plans have been prepared by Messrs. W. A. Lewis and Partners, 130, Regent-street, W.1.

LEE.—FLATS.—And garages are to be built in Eltham-road and Leyland-road, from plans by Mr. J. J. de Segrais, A.R.I.B.A., 1, Prince's-square, Bayswater, W.2.

LEWISHAM.—REBUILDING.—No contracts yet placed for the rebuilding and addition to 35 Lewisham High-road. The architect is Mr. H. A. Scrase, 16, St. Helen's-place, E.C.3.

LOWER THAMES-STREET.—WAREHOUSE. —A seven-storey warehouse is now in course of erection for the New Fresh Wharf, Ltd., London Bridge, E.C.3. The architect is Mr. C. Downing, of the company, and Messrs. E. D. Winch and Co., Ltd., 25, Buckingham-gate, S.W.1, are the general contractors. The steelwork is by Sir William Arrol and Co., Ltd.

MALDEN.—PUBLIC-HOUSE.—Messrs. Hodgson's Kingston Brewery, Ltd., Eden-street, Kingston, have acquired a site in Sheep-house-lane for a public-house, to be called the "Malden Manor." Plans have been prepared by Mr. Joseph Hill, F.R.I.B.A., 124, Sloane-street, S.W.1. The quantity surveyors are Messrs. Henry Riley and Son, 82,

Victoria-street, S.W.1, and the contractors are Messrs. W. H. Gaze and Sons, Ltd., High-street, Kingston. The tender price is £10,676.

MORDEN.—DWELLINGS.—84 dwellings are being erected in London-road by Messrs. W. W. Dawes, Ltd., 170, High-street, Colliers Wood. Messrs. H. Wakeford and Sons, 184, Clapham-road, S.W.9, are the architects.

NORTHOLT.—DRILL-HALL.—The County of Kent Territorial Army and Air Force, Maidstone, has accepted the tender of Messrs. J. W. Ellingham, Ltd., Spital-street, Dartford, for a new drill-hall and anti-aircraft headquarters in Springfield-road. The plans are by Messrs. Hoare and Wheeler, 15, Portman-street, Portman-square, W.1.

OXFORD-STREET. — RECONSTRUCTION. — Of the large premises at No. 175 is to be carried out for Mr. N. Goorwitch. The contractors are Messrs. H. Fairweather and Co., 7, John-street, W.C.1. Mr. Morris de Metz, A.R.I.B.A., 20, Craven-road, Paddington, W.2, is the architect.

PERIVALE.—FACTORY AND OFFICES.—Are to be erected in Wadsworth-avenue, W., by Messrs. Percy Bilton (Construction), Ltd., 113, Park-street, W.1. Plans are by Mr. Eric H. Firmin, A.R.I.B.A., Bilton House, Park-street, W.1.

REGENT-STREET. — BUILDING. — Messrs. List, Daws and Longworth, estate agents, of 233, Baker-street, N.W.1, are acting on behalf of a client who proposes to erect shops and showrooms on the site of 5, 7, 9 and 11, Regent-street, S.W.1, demolition of which will shortly commence. The architects are Messrs. Wimperis, Simpson and Guthrie, FF.R.I.B.A., 61, South Molton-street, W.1. No building contracts yet placed.

ROMFORD.—SHOPS.—Six in all, with 14 flats above, are to be erected in Victoria-road, by Messrs. E. A. Coryn and Son, Ardleigh Green-road, Hornchurch. The plans have been prepared by Mr. Harold Alexander, L.R.I.B.A., 8, Clarges-street, W.1.

SOUTH AUDLEY-STREET. — PREMISES.—Messrs. Trollope and Colls, Ltd., 5, Coleman-street, E.C.2, are now erecting premises at the corner of South Audley-street and Curzon-street, W.1.

SOUTHWARK. — ADDITIONS.—Are to be made to the "Black Bull" public-house, Great Dover-street, S.E.1, for Messrs. Charrington and Co., Ltd. The contractors are Messrs. L. and W. Whitehead, Ltd., 169, Clapham-road, Stockwell, S.W. The architects are Messrs. G. Gordon Stanham, 25-26, Bush-lane, E.C.4.

STOKE NEWINGTON.—FACTORY.—Messrs. S. Simpson, Ltd., are to erect a factory in Stoke Newington-road, N.16. Messrs. W. H. Gaze and Sons, Ltd., of Kingston, are the builders. The plans are by Messrs. Percy V. Burnett and Cecil Eprile, FF.R.I.B.A., 107, Jermyn-street, S.W.1.

STRATFORD. — WAREHOUSE. — Is to be erected in the High-street at the corner of Marshgate-lane, from plan prepared by Mr. H. J. Starkey, 15, Curzon-street, W.1. The contract has been placed with Messrs. H. and J. Taylor (Contractors), Ltd., Canada House, Hither Green, S.E.13.

STRATFORD.—GARAGE.—Messrs. Tillett's Sanitary Steam Laundry, Ltd., 132, Romford-road, Stratford, E.15, are erecting themselves a garage, etc., at 11-13, Carnarvon-road. The plans have been prepared by Mr. H. G. Needham, 139, Earlham-grove, E.7.

SUTTON.—STAND.—At a cost of £17,000, the Sutton and Cheam T.C. are proposing to reconstruct and provide additional accommodation for football and athletics, and a new covered stand for 1,000 is to be erected at the Borough sports ground.

SYDENHAM.—MAISONETTES.—Mr. J. Rosenfield, 52, Broomwood-road, S.W.11, is the architect for maisonettes to be erected on the south side of Sydenham Park, adjoining the Southern Railway. No contracts placed.

SYDENHAM.—SHOPS.—Messrs. Armitage and Brine, 12, Hanover-square, W.1, are the architects for shops and flats on the site corner of Dartmouth-road and Sydenham Park-road.

TOLWORTH.—SHOPS.—And flats are to be built in Ewell-road, from plans prepared by Mr. Edgar R. Taylor, A.R.I.B.A., 5, Manchester-square, W.1. The contractors are Messrs. Bridge, Walker, Ltd., 91, Effra-road, Brixton, S.W.2.

TOOTING.—ADDITIONS.—Are to be made to the Tooting and District Conservative and Unionist Club, Ashvale-road, S.W., for the Committee of Management. The plans are by Messrs. Hayward and Maynard, FF.R.I.B.A., 14, John-street, W.C.2.

VICTORIA.—GARAGE.—The L.P.T.B. are to erect a garage for omnibuses and coaches. The building will be in Guildhouse-street, Wilton-road and Gillingham-street. The foundation contract has been placed with Messrs. H. Sabey and Co., Ltd., South Wharf, Paddington, W.2, and the general building contract with Messrs. Haymills (Contractors), Ltd., Hanger Green, W.5. The plans are by the Board's chief engineer.

WALTHAMSTOW.—REBUILDING.—Mr. W. Braxton Sinclair, F.R.I.B.A., Craig's Court House, Craig-court, S.W.1, is the architect for the rebuilding of 60, High-street. The contractors are Messrs. H. Fairweather and Co., 7, John-street, W.C.1.

WALTON-ON-THAMES.—SHOPS.—And flats are to be built to the designs of Mr. T. Spencer Rutter, 49, Bedford-row, W.C.1. The builders are Messrs. A. E. Symes, Ltd., 1A, Carpenter's-road, Stratford, E.15.

WESTMINSTER.— RECONSTRUCTION. — The premises at the corner of Parliament-street and Bridge-street, S.W.1, are now being reconstructed by Messrs. Mullen and Lumsden, Ltd., 41, Eagle-street, W.C.1. The architect is Mr. D. E. Harrington, A.R.I.B.A., 22, Buckingham-street, W.C.2.

WHITECHAPEL.—RECONSTRUCTION. — The London Hospital Governors have had plans prepared for remodelling the two top floors of the Grocers wing and for an additional floor. The new floors will provide for the extension of the clinical laboratories, a new X-ray department, and new wards for the ear, nose and throat cases. The plans are by the Hospital Surveyor.

WILLESDEN GREEN. — CHURCH.—The Roman Catholic Diocese is to proceed with the building of a permanent Church of Our Lady of Compassion at Peter-avenue and Harlesden-avenue, N.W.10, at £10,000. The contract has been placed with Messrs. M. J. Gleeson, Ltd., London-road, North Cheam. The architect is Mr. J. E. Sterrett, A.R.I.B.A., 34A, Buckingham-gate, S.W.1.

WIMBLEDON. — FACTORY.—Is now being erected on the Wimbledon Factory estate for Messrs. Agfa Photo, Ltd., 4, Lawrence-street, W.C.2. The builders are the Commercial Structures, Staffa-road, Leyton, E.10.

WOODFORD.—FLATS.—One hundred are to be erected in Molford-grove, by the Modern Super Flats, Ltd. The architects are Messrs. W. H. Hayward and Co., 231, Strand, W.C.2.

WOOD GREEN.—SCHOOL.—The T.C. are inviting tenders for building at Bounds Green elementary school, Bounds Green-road. Plans by Borough Engineer and Surveyor.

WOOLWICH. — ALTERATIONS. — H.M. War Office has placed a contract for alterations to the cookhouse, etc., at Connaught barracks, with Messrs. W. Harris, Ltd., Fernhill-street, North Woolwich, E.16.

NEW CINEMAS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

DERBY.—Mr. L. F. Smith, L.R.I.B.A., Deacons Bank-chambers, Corn-market, is preparing plans for extensive rebuilding and improvements at the Picture House, Sitwell-street, Sponden, for the Sponden Cinema, Ltd.

KINGSTON-ON-THAMES. — Plans have been prepared for the erection of a cinema, shops, car park, etc., in Richmond-road and Cromwell-road. Tenders have not yet been invited. The architect is Mr. George Coles, F.R.I.B.A., 40, Craven-street, W.C.2.

MANCHESTER. — Plans have been approved for the conversion of the Metropole theatre, in Ashton Old-road and Wesley-street, Openshaw, into a cinema for Metropole (Openshaw), Ltd. The architect is Mr. H. A. Yearsley, 7, Oxford-road.

PRUDHOE-ON-TYNE.—The contract for the erection of a cinema for the Prudhoe Cinema Co., Ltd., has been placed with Messrs. Coxon and Doherty, Station-street, Blyth, Northumberland. The architect is Mr. J. N. Fatkin, 17, Bigg-market, Newcastle.

SETTLE.—Messrs. Brassington, Sons and Co., Ltd., Bridge End Mills, Settle, have secured the contract for the erection of a cinema in Market-place and Constitutional-hill, for Messrs. J. and A. Graham, of Settle. The architect is Mr. N. M. Barrett, L.R.I.B.A., 67, Albert-road, Colne.

STOCKPORT.—Messrs. C. E. Gaunt and Son, Ltd., West Bars, Chesterfield, have secured the contract for the erection of a cinema, dance hall, whist room, nursery, six shale tennis courts, and car park, at the junction of Denby-lane and Manchester-road, Heaton Norris, for Empress (Heaton Norris), Ltd. The architects are Messrs. Wilcockson and Cutts, 12, Saltergate, Chesterfield.

PUBLIC WORKS

GT. BRITAIN (Ministry of Health).—Following are notes on some loans sanctioned by the Minister of Health during the week ended September 3, 1938: Bradford C.C.—£50,000 for loan to Governors of Bradford Grammar School to meet part of cost of new school premises; Chester R.D.C.—£15,780 for works of sewerage; Colchester B.C.—£16,825 for a public library, Culver-street; Coventry C.B.C.—£172,800 for 500 houses on Canby Housing Estate; Denton U.D.C.—£24,616 for 76 houses on Chapel Field Site; Dorset C.C.—£25,600 for a public elem. sch., Dorchester; Essex C.C.—78,704 for purchase of 457 acres of land near Brentwood and Romford for the Green Belt, £45,642 for a secondary sch., Chingford; Glamorgan C.C.—£54,185 for a new senior coun. sch., Bridgend; Hyde B.C.—£53,900 for purposes in connection with provision of dwellings on Walker-lane Estate; Kettering U.D.C.—£31,000 for 100 houses on the Avondale-road Site; Lancaster C.C.—£24,640 for a public elem. sch., Fleetwood; Middlesex C.C.—£37,742 for the Ruislip-Northwood, Ruislip Gardens Estate coun. sch.; Nottingham C.C.—£19,508 for purchase of land at Trent-lane, Lenton, Bagnall-road and Balloon Wood for purposes of refuse disposal; Somerset C.C.—£38,267 for the provision of Ansford coun. sch.; Southend-on-Sea C.B.C.—£31,546 for purchase of land adjoining Seaway for car park; Wath-upon-Dearne U.D.C.—£33,750 for 80 houses and work in connection therewith, Newhill; Wortley R.D.C.—£98,073 for 286 houses on various sites.

GREAT BRITAIN. — Among contracts advertised in this issue by local authorities as being open to tender are: Hexham R.D.C.—20 houses at Fourstones; Hastings T.C.—infants' school; Pontypridd U.D.C.—76 houses, near Ebenezer-street, Rhydyfelin; Chester C.C.—senior school, Cecil-avenue, Sale; Dover T.C.—St. Radigund's-road infants' school; Swanage U.D.C.—48 houses at Greyseed.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary. A dagger (†) denotes closing date for applications for particulars; other dates are those for the submission of tenders; the name and address at the end refer to the person from whom particulars may be obtained. Abbreviations: (A.) for A.R.I.B.A.; B. of E. for Board of Education; B.C. for Borough Council; B.E. for Borough Engineer; B.S. for Borough Surveyor; C. for Clerk; C.B. for County Borough; C.C. for County Council; C.E. for County Engineer; C.S. for County Surveyor; D.S. for District Surveyor; E. for Engineer; E.C. for Education Committee; (F.) for F.R.I.B.A.; (L.) for L.R.I.B.A.; M.W.B. for Metropolitan Water Board; M.H. for Ministry of Health; M.T. for Ministry of Transport; P.C. for Parish Council; R.D.C. for Rural District Council; S. for Surveyor; T.C. for Town Clerk and Town Council; and U.D.C. for Urban District Council.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, &c.

SEPTEMBER 16.

†**Newcastle-upon-Tyne T.C.**—Local respiration store, Mayling's factory, City-rd. City Estate and Property S.

SEPTEMBER 19.

✱**Hexham R.D.C.**—20 houses at Fourstones. C.

SEPTEMBER 21.

Abercwmboi.—Painting interior of workmen's hall and institute. The Secretary.

Barking T.C.—Branch library at Markyate-rd. C. C. Shaw (A.). Dep. £5 5s.

Bristol. — Winterstoke-rd., garage. Architect, The Bristol Tramways & Carriage Co., Ltd., Whitson-st., St. James.

Cumberland C.C.—Gymnasium at Whitehaven secondary school. John H. Haughan (A.), County Architect, 4, Alfred-st. North, Carlisle. Dep. £1.

Devon C.C.—Alterations and renovations, Okehampton Public Assistance Institution. H. V. de Courcy Hague (F.), County Architect, 97, Heavitree-rd., Exeter.

Dursley R.D.C.—Houses, 10 at Kingswood and 8 at Slimbridge. C. Dep. £1 1s.

Failsworth U.D.C.—Installation of electric lighting and power, also sinks, baths, etc., for 30 houses on Lord-ln. and 18 houses, Wrigley Head-cres. J. W. E. Brown, S.

Gloucestershire E.C.—Senior council school at Dursley. R. S. Phillips (F.), County Architect, Shire Hall, Gloucester. Dep. £2 2s.

Hoddesdon U.D.C.—Demolition of 5 cottages, outbuildings, etc., at Griffin Yard. W. Plumpton, S., High-st.

✱**Kent C.C.**—Admission hospital and convalescent villas at mental hospital, Chartham Down, nr. Canterbury. W. H. Robinson (F.), Maidstone. Dep. £5 5s.

Kilcorney.—Enlargement and improvement of central creamery, for Kilcorney Co-operative Dairy Society, Ltd. J. Hegarty, secretary. Dep. £1.

Morley C.B.—50 houses, 8 flats on Churwell Park housing estate on 2 sections. B.E. Dep. £2 2s.

Rochdale C.B.—Repairs to roofs and patent glazing at premises adjoining Electric House, Smith-st. B.S.

Salford T.C.—Cubicles at Ladywell Sanatorium. City E.

Salford T.C.—Electrical installation at new covered market, Cross-ln. City Electrical E.

Stocksbridge U.D.C.—External painting of 115 houses. D. E. Robinson, S.

Sunderland C.B.—Pavilion, Hylton-rd. playing field. Education Architect's Dept., Education Offices, 15, John-st. Dep. £1 1s.

SEPTEMBER 22.

Altrincham T.C.—Brick walls and various works in Church-st. H. E. Brown, B.S. Dep. £1 1s.

Cornwall (H.M.O.W.).—Germoe Telephone Exchange. Room 65D, Third Floor, Office of Works London, S.W.1. Dep. £1

Down County E.C.—Saintfield Academy P.E. school—erection of out-offices and connecting water system; Kirkistown P.E. school, Ardkeen—alterations; Killinchy P.E. school—sewerage scheme, water supply and repairs; Carr P.E. school, Lisburn—sewerage scheme, water supply and repairs. T. W. Henry, architect, 16, Donegall-sq. South, Belfast.

Great Yarmouth E.C.—Assembly hall at Northgate school, Rampart-rd. B.E.

Ireland.—Co. Cavan: Ballynarry National School, erection; and Co. Leix: Cullohill National School, improvements, for Commissioners of Public Works. Geo. P. Fagan, Secretary, Office of Public Works, Dublin. Dep. £1 each.

Liverpool T.C.—Garston car shed extension, bus garage and offices. Land Steward and S. Dep. £2 2s.

Liverpool T.C.—Air-raid precautions headquarters at Cheapside. Land Steward and Surveyor. Dep. £3 3s.

Manchester (H.M.O.W.).—Southern District postmen's office. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

Nairn (H.M.O.W.).—Unit automatic exchange. Architect, H.M.O.W., 122, George-st., Edinburgh, 2. Dep. £1.

Plympton St. Mary R.D.C.—Wiring of 40 houses at council's housing estate at Sparkwell. Electrical E. Dep. £1 1s.

Sheffield (H.M.O.W.).—Woodseats Telephone Exchange. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

Southport T.C.—Additions at Fleetwood-rd. hospital. B.E. Dep. £2 2s.

Southwell R.D.C.—2 pairs houses, Kirklington. S. Cooper, S., Council Offices, 8, Westgate. Dep. £1 1s.

SEPTEMBER 23.

Aberdeen C.C. — Alterations at Maud police station, for Master of Works, 22, Union-terr., Aberdeen.

Birmingham T.C.—Premature babies' block at Heathfield-rd. maternity home, and new operating theatre at Little Bromwich Hospital. F. H. C. Wiltshire, T.C. Dep. £2 2s. each.

Devizes R.D.C.—Cottages. T. W. Snailum (A.), Church-st., Trowbridge. Dep. £1 1s.

Ealing T.C.—Conversion of pumping station, High-ln., Hanwell, into public convenience. C. W. Seddon, B.E. Dep. £1 1s.

Edinburgh T.C.—Verandah at admission block (female), Bangour Mental Hospital. City Architect.

✱**Erith U.D.C.**—Demolition of "Hurst Cottage," Woolwich-rd., Abbey Wood. E. and S. Dep. £1 1s.

✱**Hastings T.C.**—Infants' school. B. and Water E., 37, Wellington-sq. Dep. £3 3s.

Hull T.C.—Three cubicle blocks and operating block at City Hospital, Cottingham. City Architect. Dep. £1 1s.

Hull T.C.—Painting Corporation property. City Architect.

Hyde T.C.—Various works in connection with erection of school in Newton. Secretary for Education. Dep. £1 each case.

Manchester (H.M.O.W.). — Openshaw Employment Exchange. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

Merthyr Tydfil C.B.—216 houses at Galon Uchaf. B.S.

North Riding E.C.—East Ayton council school, teacher's house, new bathroom; and Lockton Pickering council school, alterations. Education Offices, Northallerton.

Norwich T.C.—Sub-station, St. George-st. City Architect.

Roscommon Board of Health and Public Assistance.—Hot and cold water supply, sanitary plumbing, etc., at new County Hospital buildings. J. R. Boyd Barrett (A.), 61, South Mall, Cork. Dep. £10 10s.

Walsall C.B.—Sub-stations, one in Tyndale-cres., Pheasey Farm, and one in Collingwood-dr., Pheasey Farm. E. A. Newburn, E., Electric Supply Dept., Upper Bridge-st.

SEPTEMBER 24.

Bishop Auckland.—Works at Binchester Whins Smallpox Hospital and Marwood Hospital, Barnard Castle, for Auckland Shildon and Willington Joint Hospital Board. R. Liddle, C. to Board, 56, North Bondgate, Bishop Auckland.

FEDERATED EMPLOYERS'

Insurance Association Ltd.

(non-tariff)

Head Office:

8, King St., Manchester

London Office:

23, Lawrence Lane, Cheapside, London, E.C.2

All Classes of Insurance Transacted

(Except Life and Marine)

The Leading Office for

Contract Guarantee Bonds

Blyth C.B.—Conversion of 9 privy closets into w.c.s in Cheyne's-bldgs., Bebside. T. Wilson, B.E. Dep. £1 1s.

Bootle C.B.—Branch library, assembly hall and housing estate office, junction of Linacre-la. and Northfield-rd. W. A. Harrison, B.E. and S., Dep. £2 2s.

Cleethorpes T.C.—Sea wall, etc., at Sea-rd.; alterations to structural steelwork to form new pier entrance. L. W. Pye, B.E.

Cornwall C.C.—External painting and repairs at St. Austell Institution. S. Pool (A.), County Architect, Truro. Dep. £1 1s.

Evesham R.D.C.—External painting of 6 houses at Worcester-rd., Inkberrow, 4 houses at Main-rd., Cookhill, and 4 houses at Oak Tree-ln., Cookhill. R. J. Atkinson, S., 64, Port-st.

Maidstone T.C.—Exterior painting of 574 houses and 24 flats on various housing estates. T. F. Bunting, B.S.

Merioneth C.C.—School at Dinas Mawddwy. N. L. Jones, County Architect, County Offices, Dolgelley. Dep. £3 3s.

Outwood Working Men's Club.—Exterior painting. Particulars and specifications from Secretary.

Shropshire E.C.—New school at Ketley-Hadley. A. G. Chant, County Architect, 5, Belmont, Shrewsbury. Dep. £2 2s.

Tywcelyn R.D.C.—4 houses at Rhosybol. W. F. Brindle (L.), Sunnyside, Menai Bridge. Dep. £2 2s.

SEPTEMBER 26.

Beddington and Wallington T.C.—External painting of houses. B.E. and S. Dep. £2 2s.

Bexley T.C.—Demolition of properties in High-st. and Danson-ln., Welling. G. A. Joy, B.E. and S. Dep. £1 1s.

Blaenavon.—Alterations and additions to swimming bath at recreation ground, for Blaenavon Workmen's Institute and Hall. A. J. Brown, secretary, 16, Shepherd-sq.

Bootle T.C.—Structural steelwork and artificial stonework for proposed branch library, assembly hall and housing estate office. B.E. and S. Dep. £1 each.

Bournemouth T.C.—Alma-rd. senior girls' school. B.E. Dep. £2 2s.

Chester T.C.—Electric wiring of city and county school extensions and new buildings in course of construction. C. Greenwood, City E. Dep. £1 1s.

Coulsdon and Purley U.D.C.—180 yds. run of 6 ft. high, and approximately 50 yds. run of 5 ft. 6 in. high oak fencing with gates, on new footpath between Purley Bury-close and Purley Downs-rd., Sanderstead. E. and S.

Co. Fermanagh Regional E.C.—Extension to Enniskillen Collegiate School for Girls. F. G. Townsend, Courthouse, Enniskillen. Dep. £5 5s.

Dartford T.C.—Redecoration of sculleries in 222 houses on Corporation housing estate. Housing Superintendent, Mead-rd.

Durham C.C.—Alterations at Brandon council school, No. 31. F. Willey (F.), 34, Old Elvet, Durham.

Hastings T.C.—Market hall. L. H. Clarke, B.E. and S.

Haverfordwest.—Extensions to male ward, for Pembroke County War Memorial Hospital. D. F. Ingleton (F.), 12, Victoria-pl. Dep. £2 2s.

Isle of Axholme R.D.C.—Electric lighting to 102 houses. S.

Kingsclere R.D.C.—8 houses. W. A. Cooper, C Dep. £1 1s.

✱**Leyton T.C.**—Installation of hot-water heating apparatus and electric lighting at new library, etc., Harrow Green. John H. Jacques (F.), 61 West Ham-ln., Stratford, E.15. Dep. £1 each.

Moneymore.—Rewiring of church and an installation of a flood-lighting system, for Select Vestry of St. John's Church, Moneymore, County Derry. Hon. Secretary's Residence, Moneymore.

Monmouthshire E.C.—Junior mixed and infants' council school at Blaina. Colin L. Jones (F.), County Hall, Newport (Mon.). Dep. £5 5s.

Northern Ireland Government.—R.U.C. barracks at Glengormley, Belfast, and Donaghadee, Co. Down. Secretary, Ministry of Finance (Room 128), May-st. Belfast. Dep. £1 each.

Northern Ireland Government.—Automatic telephone exchange at Helen's Bay, Co. Down. Secretary, Ministry of Finance (Room 128), May-st., Belfast. Dep. £1.

Penllyn R.D.C.—8 houses, Llandderfel. H. Leslie Fox (L.), Surgery-dr., Church-st., Oswestry. Dep. £2 2s.

Portsmouth T.C.—Fabrication and erection of steel-framed extension to hangar No. 3 at City Airport. City E. Dep. £1 1s.

Risca U.D.C.—104 semi-detached houses, Gelli Pistill estate, and the roads and sewers. E. and S. Dep. £5 5s.

Stanley U.D.C.—Conversion of 3 privies into water closets, Aberford-rd., Stanley; 3 privies, Roundwood, nr. Wakefield; and 1 privy, Intake-ln. R. Blakey, Sanitary Inspector.

Stretford T.C.—School at Lostock. Percy Howard (A.), 88, Mosley-st., Manchester, 2. Dep. £1.

Sutton-in-Ashfield U.D.C.—114 houses, roads, etc., Forest-rd., Skegby. Warner & Dean, architects, Mansfield-rd. Dep. £3 3s.

✱**Tredegar U.D.C.**—52 houses at Nantybwch. S. Dep. £3.

West Riding C.C.—Bingley—hot-water heating in extensions at Cottingley council school; Dinnington—electric lighting in extensions at Dinnington senior school; Morley—taking down old pavilion and levelling playing field at Morley grammar school; Rossington—asphalting, etc., of boys' playground at Rossington council school: Ryhill—hot-water heating in extensions at Ryhill council school; Wath-on-Dearne—adaptation as junior instruction centre for girls of Sandygate House, Wath-on-Dearne. Education Officer, County Hall, Wakefield.

West Riding E.C.—Removal of main turret and 4 ridge ventilators and repairs to roof of Salterforth council school. C. E. Bailey, Education Office, Skipton.

SEPTEMBER 27.

Bedlingtonshire U.D.C.—70 houses, Church-ln. W. Hall, S.

Billinge U.D.C.—12 houses at Holt-cres. S. Dep. £2 2s.

Chelmsford T.C.—External painting 278 houses, Boarded Barns estate. V. J. Willis, B.E. and S. Dep. £1.

Darlington C.B.—Recreation room, Polam Hill housing site. B.S. Dep. £1 1s.

Derby T.C.—4 shops, Roe Farm estate. C. H. Aslin (F.). Dep. £1 1s.

Dundalk U.D.C.—50 houses, Lennon's Field. J. S. Doris, Town S. Dep. £5.

Glamorgan C.C.—Bridgend mining and technical institute—additions and alterations: Abercerdin (Gilfach Goch) council school—conversion of boys' department into senior mixed department and erection of caretaker's house; Jersey Marine council school—forming and levelling playing field; Cadoxton (Neath) senior school—improving and levelling playing field; Llwynderw (Maesteg) council school—conversion of boys' and girls' departments into senior school; Neath mining and technical institute—additions and alterations; Hendre (Caerphilly) council school—conversion of temporary building for nursery classes. Henry Rowland, C., County Hall, Cardiff.

Kilkenny Board of Health and Public Assistance.—20 cottages, Bennettsbridge, and 18 cottages, Slieverue. Thomas Kelly, consulting engineer, 35, Patrick-st. Dep. £10.

Penistone R.D.C.—20 houses in Cawthorne-ln., Silkstone. Lunn, Heppenstall & Lunn, architects, Milnsbridge, Huddersfield. Dep. £2.

Tipton U.D.C.—404 houses, Upper Church-ln. estate, section 2. C. R. Gallie (A.), Housing Director. Dep. £2 2s.

Wood Green T.C.—Works at Bounds Green Elementary School. B.E. and S. Dep. £2 2s.

SEPTEMBER 28.

Blandford R.D.C.—16 houses, Milborne. E. A. Down, architect, Aldermoors, Ringwood. Dep. £1.

Cotford, nr. Taunton.—2 cottages at Somerset and Bath Mental Hospital. A. W. Caley, C.

Leiston (H.M.O.W.).—Employment Exchange. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

Liverpool (H.M.O.W.).—Great Crosby Telephone Exchange. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

London (H.M.O.W.).—Internal painting and cleaning at War Office, Whitehall. Room 65D, Third Floor, Office of Works, S.W.1. Dep. £1.

***Luton T.C.**—Extension to Hitchin-rd. senior girls' school. B.E. and S. Dep. £3 3s.

Merton and Morden U.D.C.—Public baths, etc. E. and S. Dep. £1.

Newcastle-upon-Tyne T.C.—Reinforced concrete floor and apron joiner work, brickwork, painting, etc., at hangar at Municipal Airport, Woolsington. City E.

Northern Ireland Government. — New R.U.C. barrack at Ahoghill. Secretary, Ministry of Finance (Room 128), May-st., Belfast. Dep. £1.

Oxford T.C.—Flats and houses. City E. and S. Dep. £3 3s.

Romford T.C.—32 bungalows, Brooklands housing estate. B.E. and S. Dep. £3 3s.

Sudbury, Suffolk (H.M.O.W.).—Telephone Exchange. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

SEPTEMBER 29.

Aughton.—Farm buildings at Narrow-ln. Farm. M. Cave, architect and surveyor, Moor-st., Ormskirk.

Carmarthen (H.M.O.W.).—Garnet Employment Exchange. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

Darlington C.B.—Cloakrooms, etc., Grammar School. B.S. Dep. £1 1s.

Dungannon Regional E.C.—Public elementary school at Ballynahaye. J. P. Rush, architect, Courthouse, Lisburn. Dep. £2 2s.

Gosport T.C.—School at Elson. Secretary. Dep. £1 1s.

Rochdale T.C.—Demolition of buildings and erection of market. B.S. Dep. £2 2s.

Southam R.D.C.—Painting, redecorating and minor repairs to houses. Quick & Lee, architects, 11, Waterloo-pl., Leamington Spa.

Washington Station, Durham (H.M.O.W.).—Employment Exchange. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

SEPTEMBER 30.

Boston R.D.C.—7 pairs of houses and bungalows. W. R. Beardall, S., 15, Market-pl. Dep. £2 2s.

Breconshire C.C.—Erection of Brynmawr County School, gymnasium and canteen. H. C. W. Strickland (F.), County Architect, Watton Offices, Brecon. Dep. £2 2s.

***Carlisle T.C.**—Police and fire station. C.E., 18, Fisher-st. Dep. £2 2s.

Cheltenham T.C.—32 houses and sheds on Whaddon Farm housing estate. B. and Water E. Dep. £3 3s.

***Enfield U.D.C.**—School, at Enfield-rd. Frank Lee (L.), "Percy House," 7, Little Park-gdns. Dep. £2 2s.

***Gateshead T.C.**—General hospital. B.E. Dep. £15 15s.

Margate T.C.—58 houses at Garlinge. B.E. 40, Grosvenor-pl. Dep. £2.

***Scarborough T.C.**—153 houses. B. and Water E.

Wimborne and Cranborne R.D.C.—Eight semi-detached cottages, Corfe Mullen, near Wimborne. W. G. Hall, 8, Church-st., Wimborne. Dep. £1 1s.

OCTOBER 1.

Merioneth C.C.—(a) Barmouth police court room, internal painting, and (b) Harlech police station, external painting. L. Jones, C. Architect, Dolgelley.

***Wood Green T.C.**—External painting of (1) fire station, etc., and (2) 54 houses, White Hart-ln. estate. B.E. and S. Dep. £1 1s. each.

OCTOBER 3.

Farnham U.D.C.—Public convenience, Brightwellgdns. L. H. Starling, E. and S.

Faversham T.C.—42 houses and incidental work, Lower-rd. S. Percy Andrews, B.S., 20, West-st. Dep. £5.

Leeds T.C.—Nurses' home at Killingbeck sanatorium, York-rd. G. F. Bowman & Son, architects, 18, Park-row. Dep. £2 2s.

***Pontypridd U.D.C.**—76 houses. W. C. Evans, Architect and S. Dep. £2 2s.

West Riding C.C.—Mirfield, erection of senior school and caretaker's house; and Warmsworth, erection of junior school. Education Officer, County Hall, Wakefield.

West Riding C.C.—Heating works at Bentley Toll Bar Council School; Earby new junior mixed and infants' school; Rawmarsh nursery school, and South Kirkby Common-rd., council school. Education Officer, Wakefield.

OCTOBER 4.

Barnsley C.B.—24 houses on Cliffe Bridge rehousing site. B.E. Dep. £1 1s.

***Leeds (H.M.O.W.).**—Additions to Chapeltown branch post office. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

***Preston (H.M.O.W.).**—Longton Telephone Exchange. Room 65D, Third Floor, Office of Works, London, S.W.1. Dep. £1.

OCTOBER 5.

Blackwell R.D.C.—Additions to Dale-close House, Chesterfield-rd., Mansfield, and erection of caretaker's cottage and car shelter. A. H. Elliott, Gilcroft-chambs., Church-ln. Dep. £2.

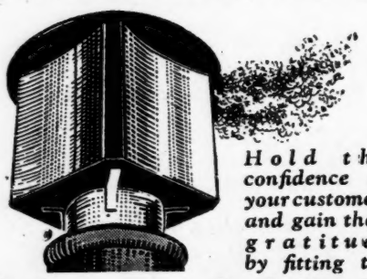
Tenbury R.D.C.—5 pairs of non-parlour houses in Bromyard-rd., 1 pair at Berrington, 2 pairs at Mamble, and 2 pairs at Stockton; also road and footpaths at Crescent site, Bromyard-rd. L. Ashley, C.

OCTOBER 6.

Darwen T.C.—Maternity and child welfare centre. Union-st. B.E. Dep. £2 2s.

Lurgan B.C.—Nurses' home at Lurgan, Co. Armagh. R. Ferguson & S. McIlveen, architects, 36-38, Scottish Provident-bldgs., Belfast. Dep. £2 2s.

SMOKY FIRES CURED
under written money - back
GUARANTEE



Hold the confidence of your customers and gain their gratitude by fitting the

COLT COWL

● Wonderful discovery by aero-dynamic expert that banishes the smoky fire bogy for ever. ● You can fit the Colt Cowl unnoticeably to the top of a chimney pot in a few minutes. ● No wind can possibly make the fire smoke ● Equally suitable for gas fires—no more fumes. ● Neat appearance. ● No moving parts. ● Only 35/-, less trade discount.

POST COUPON FOR FULL DETAILS

To COLT Ventilation Ltd.,
600, Bush House, Strand, London, W.C.2.
Please send me without obligation illustrations and full particulars of the Colt Cowl, also particulars of your money-back guarantee and Trade Terms.

NAME.....

ADDRESS.....

.....

Narberth R.D.C.—Pair of houses at Llandissilio, nr. Clynderwen. J. Owen Parry & Lewis, architects, Ammanford. Dep. £1 1s.

***Swanage U.D.C.**—48 houses at Greyseed. S.

OCTOBER 8.

Berwick-upon-Tweed T.C. — Iron fencing and gates, Highfields housing estate, North-rd. B.S.

OCTOBER 10.

Birmingham T.C.—Central fittings depot, Sherborne-st. A. W. Smith, general manager and secretary, Gas Dept. Dep. £2.

Coventry Corporation.—High-class pumping station building on property at Meriden Shafts, near Coventry. Herbert Lapworth Partners, engineers, 25, Victoria-st., Westminster, S.W.1. Dep. £3.

***Dover T.C.**—Elementary school at St. Radigund's-rd. B.E. and S., Maison Dieu House. Dep. £2 2s.

OCTOBER 14.

***Chester C.C.**—Senior school, Cecil-av., Sale. F. Anstead Browne (F.). Dep. £2 2s.

Romsey T.C.—36 houses, Alma-rd. housing site. B.S. Dep. £2 2s.

OCTOBER 17.

Stockport C.B.—Sub-station and shelter, Brinks way bridge. B.S.

OCTOBER 18.

Dover T.C.—Conversion of old boiler house, etc., Park-st. Fry & Miller, architects, 16, Castle-st. Dep. £1 1s.

NO DATE.

Aberdare.—New Rex super cinema, High-st. W. E. Willis (A.), Globe-bldgs., Penylan, Cardiff.

Belper R.D.C.—2 pairs of semi-detached houses at Horsley. G. Pym, C., 122, Bridge-st. Dep. £2 2s.

Hull Royal Infirmary.—Fracture clinic, Brook-st. Gelder & Kitchen, architects, 120, Alfred Gelder-st.

Ross and Cromarty C.C. — One block of 4-3-apartments, two blocks of 4-apartments, and one block of 5-apartment houses at Alness. D. Matheson & Sons, architects and civil engineers, Dingwall.

MATERIALS, &c.

The materials for which tenders are invited normally include one or several of the following :—asphalt, bricks, brooms, building lime, cast-iron pipes, cement, concrete kerbs, etc., concrete tubes, drain pipes, glazed stoneware pipes, granite chippings, granite kerbs, gravel, gulleys, lime, manhole covers, painters' materials, plumbers' materials, road stone slates, stoneware pipes, sand, stone, tar, tarslag and bituminous macadam, timber, and whinstone screenings. Readers should obtain full particulars by personal inquiry.

SEPTEMBER 21.

Dewsbury C.B.—Steel window frames at Victoria senior boys' school. Borough Architect.

Douglas.—For Highway Board. The Surveyor-General of Highways, 21a, Athol-st., Douglas.

SEPTEMBER 22.

G.W. Rly. Co.—F. R. E. Davis, secretary, Paddington Station, W.2.

SEPTEMBER 23.

Birkenhead.—Mersey Railway Co.

SEPTEMBER 24.

Felixstowe U.D.C.—Sanitary fittings, sea pavilion. J. A. Sherman (L.), 9, Northgate, Ipswich.

Salford T.C.—400 yds. concrete pipe sewers. City E. Dep. £2 2s.

Wath-upon-Dearne U.D.C.—W. E. Haigh, E. and S.

SEPTEMBER 26.

King's Lynn T.C.—J. C. Matthews, B.E.

***Leyton T.C.**—School furniture. John H. Jacques (F.), 61, West Ham-ln., Stratford, E.15. Dep. £1

SEPTEMBER 27.

Bedlington U.D.C.—Hardware, etc., for 142 houses at Scotland Gate, Choppington, and 64 houses at Guide Post. W. Hall, S.

OCTOBER 1.

Hertford T.C.—B.E. and S.

OCTOBER 3.

Brighton C.B.—144 standard design garden sheds. Housing Manager, 72/73, Grand Parade.

ENGINEERING, IRON AND STEEL.

SEPTEMBER 21.

Abersoch.—Two tidal flap doors on river Soch, for Caernarvonshire Rivers Catchment Board. Clerk, 36, High-st., Caernarvon.

Folkestone C.B.—Construction of East Cliff sea defence and promenade works. C. S. Meik & Halcrow, 16, Victoria-st., Westminster, S.W.1. Dep. £5 5s.

Hornsea U.D.C.—Refuse destructor on site of old waterworks, Atwick-rd. R. Chart, E. and S.

Sunderland C.B.—Low-pressure hot-water heating system and domestic hot-water supply at Commercial-rd. senior schools. Education Architect, 15, John-st.

SEPTEMBER 22.

Liverpool T.C.—Approximately 350 tons of structural steelwork at proposed air-raid precautions headquarters, Cheapside. Land Steward and Surveyor. Dep. £1 1s.

Whitby U.D.C.—Jetty at Dock End of composite steel sheet pile and timber construction, and repairing a short length of masonry wall on New Quay. Lewis & Lewis, consulting engineers, 15, Victoria-st., Westminster, S.W.1. Dep. £1.

SEPTEMBER 23.

Gloucester T.C.—Installation of central heating and domestic hot-water supply systems in existing hospital, and new extension to nurses's home, Isolation Hospital, Over. Edwin S. Hoare & Partners, consulting engineers, 39, Broad-st., Bristol. Dep. £3 3s.

Norwich T.C.—Sheet steel piling to river bank at Thorpe power station. City Electrical Engineer, Duke-st. Dep. £2 2s.

SEPTEMBER 24.

Bakewell R.D.C.—Eyam Woodlands and Nether Padley sewerage and sewage disposal works. Brady & Partington, chartered civil engineers, Chapel-en-le-Frith. Dep. £5.

Farnham U.D.C. — Frensham Vale drainage scheme. L. H. Starling, E. and S. Dep. £2 2s.

Lancaster R.D.C.—Sewers and septic tank and filter at Middleton. S., 5, Dalton-sq.

Walsall T.C.—Widening of bridge No. 2 over River Tame. B.S. Dep. £3 3s.

SEPTEMBER 26.

Alford U.D.C.—Reinforced concrete roof to existing reservoir, with appurtenant works. W. H. Radford & Son, consulting engineers, Albion-chambs., King-st., Nottingham. Dep. £2 2s.

Huddersfield C.B.—Construction of Digley reservoir. G. H. Hill & Sons (Manchester), engineers, 51, Mosley-st., Manchester. Dep. £10 10s.

Malden and Coombe T.C.—Kingston Vale pumping station. A. R. Goldthorp, B.E.

Newport (Mon.) C.B.—Talybont second pipeline, 1st instalment. W. W. Marsden, E., Crown-arcade. Dep. £3 3s.

Sandown-Shanklin U.D.C.—1,500 ft. lin. of mass concrete revetment, together with battering-off of 600 ft. lin. of cliff, construction of concrete steps, etc. General Surveyor, Town Hall, Sandown. Dep. £1 1s.

Staffordshire C.C.—Contract No. 2. Standon Hall Orthopædic Hospital sewage disposal. Willcox, Raikes & Marshall, engineers, 33, Great Charles-st., Birmingham, 3. Dep. £3 3s.

SEPTEMBER 29.

Luton T.C.—Widening and improvement of section No. 1, Bramingham-rd., Leagrave, and reconstruction of bridge over the River Lea. J. W. Tomlinson, B.E. and S. Dep. £4 4s.

SEPTEMBER 30.

Dublin T.C.—600 yds. (approx.) of intake tunnels and valve shaft and other works comprising intake works at Poulaphouca. City E., 28, Castle-st. Dep. £5 5s.

Inverness T.C.—Temporary timber bridge across River Ness. James Cameron, T.C. Dep. £5.

Ministry of Transport. — Bridge over River Thames, nr. Bray Lock. Freeman, Fox & Ptnrs., engineers, Broadway-bldgs., Westminster, London, S.W.1. Dep. £20.

Wigston U.D.C.—Sewers and pumping station at Wigston Fields. Pick, Everard, Keay & Gimson, engineers, 6, Millstone-ln., Leicester. Dep. £2 2s.

OCTOBER 3.

Newmarket R.D.C.—Sewage disposal works, for parish of Stetchworth. Sands & Walker, consulting engineers, Milton-chambs., Nottingham. Dep. £2 2s.

Staffordshire C.C.—Reconstruction of Stewponey Canal Bridge, near Stourbridge. C.S., Stafford Dep. £5.

York T.C.—Extensions to sewage disposal works, contracts Nos. 1 and 2. C. J. Minter, City E. Dep. £5 5s.

OCTOBER 4.

Manchester T.C.—Reconstruction of bridge No. 10 carrying Queen's-rd. over L.M.S. Rly. City E. Dep. £3 3s.

OCTOBER 7.

Daventry R.D.C.—Long Buckby sewerage and Kilsby sewerage schemes. Pick, Everard, Keay & Gimson, engineers, 6, Millstone-ln., Leicester. Dep. £2 2s.

OCTOBER 8.

Burnley C.B.—Circular reinforced concrete tanks, extensions to power house and sundry other works required in extension of Wood End sewage disposal works. B.E. and S. Dep. £2 2s.

OCTOBER 10.

Basford R.D.C.—Gotham sewerage and sewage disposal works. J. J. Ellis, engineer, surveyor and housing architect, Rock House, Stockhill-ln. Dep. £5 5s.

Glasgow Corporation.—Bridge over Levern Water, town planning road No. 3, Pollok estate. J. L. Mackenzie, T.C. Dep. £2 2s.

OCTOBER 12.

Rhondda U.D.C.—Water supply at Tynywaun Reservoir, Blaenrhondda. Thomas & Morgan & Partners, engineers, 23, Gelliwastad-rd., Pontypridd. Dep. £2 2s.

OCTOBER 15.

Calne and Chippenham R.D.C.—Extension of sewers and construction of sewage disposal works, Corsham. Parker, Pearson & Ross Hooper, engineers, Dallas-chambs., Chippenham. Dep. £2.

OCTOBER 17.

Middlesex C.C.—Contract No. S.30—Hampton branch sewer, for West Middlesex main sewerage scheme. J. D. & D. M. Watson, engineers, 3, Central-bldgs., Westminster, S.W.1. Dep. £5 5s.

Rugby R.D.C.—Northern water supply (contract No. 2). J. D. & D. M. Watson, MM.Inst.C.E., engineers, 3, Central-bldgs., Westminster, S.W.1. Dep. £3 3s.

South African Railways and Harbour Administration.—Supply and delivery, for electric-loco shop extension at Dauskraal, of structural steelwork, etc. Department of Overseas Trade, S.W.1.

ROAD, SEWERAGE AND WATER WORKS.

SEPTEMBER 21.

Easingwold R.D.C.—Sewerage. Fairbank & Son, Barclays Bank-chambs., St. Helens-sq., York. Dep. £3 3s.

Harwich T.C.—Making-up Portland-pl., Dovercourt. F. H. French, B.E. and S. Dep. £2 2s.

Stockport T.C.—Bituminous surfacing of existing concrete carriageway to various streets on Didsbury-rd. housing site. W. F. Gardner, B.S.

Sunderland.—Roads and sewers in connection with erection of 270 flats at Hartley-st., for North-Eastern Housing Assoc., Ltd. J. E. Lewis, B.E. and S.

Sunderland C.B.—Reconstruction of main drain at Cherry Knowle hospital, Ryhope, near Sunderland, comprising 350 lin. yds. of concrete tube sewer in tunnel. B.E. Dep. £5 5s.

SEPTEMBER 22.

Birkenhead C.B.—Approximately 2,635 sq. yds. of single-coat mastic asphalt surfacing upon prepared concrete foundation in Argyle-st. and Conway-st. B.E. and S.

Birkenhead T.C.—Concreting surfaces of various passages. B.E. Dep. £1.

Hebden Royd U.D.C.—Earthenware pipe surface water drains together with manholes and other works incidental thereto in Zion-st., Aspinall-st., Albert-st., Banksfield-rd., Jubilee-st., and Ribstone-st., Mytholmroyd. H. L. Bottomley, E. and S.

Plympton St. Mary R.D.C.—Sewers. E. Dep. £3 3s.

Poole T.C.—Creekmore sewerage. E. J. Goodacre, B.E. Dep. £2 2s.

Southwell R.D.C.—Water main extensions along Town End, Laxton, and along Ossington-rd., Carlton-on-Trent. S. Cooper, 8, Westgate.

Stratford-on-Avon R.D.C.—Sewer. H. J. Weeks, 11, Guild-st.

SEPTEMBER 23.

Chepstow U.D.C.—Sewers. G. A. Evill, C., Bank-bldgs.

Llanelly T.C.—Asphalt surfacing, Swansea road improvement. B.E. Dep. £2 2s.

Poole T.C.—Soil sewering, etc., Pound-ln., Hunt-rd. and Bond-rd. E. J. Goodacre, B. E. and S. Dep. £2 2s.

SEPTEMBER 24.

Cornwall C.C.—Stoneware and cast-iron drains from Falmouth Institution to T.C. sewer at Trescobeas-rd., Falmouth. S. Pool, County Architect, Truro. Dep. £2 2s.

Holywell U.D.C.—Fencing and construction of new footpath, Station-rd. to Bryn Mawr-rd. D. L. Morgans, B.Sc., surveyor and architect.

Kesteven C.C.—Reconditioning of road A.16, from Horsegate towards Spalding, for 2,200 yds. C.S., Sleaford.

Manchester T.C.—Kerbing, draining, sewering various highways. District S. Dep. £1 1s.

St. Andrews T.C.—Reinforced concrete roads, laying of 9-in. dia. and 6-in. dia. fireclay sewers and other incidental works. R. F. Buick, B.E.

Salford T.C.—400 yds. of 24-in. to 45-in. concrete pipe sewers. City E. Dep. £2 2s.

Wetherby R.D.C.—Making-up of The Grove, East Keswick. H. D. Kirkus, Estate Manager.

SEPTEMBER 26.

Bredbury and Romily U.D.C.—Making-up of Central-av., Park-av., Park-rd., Park-rise. H. W. Marsden, E. and S. Dep. £3 3s.

Cannock U.D.C.—Storm-water sewers at Hednesford-rd., Heath Hayes. R. Blanchard, E. and S. Dep. £2.

Chichester R.D.C.—Sewerage works in Middleton. Howard Humphreys & Sons, engineers, 17, Victoria-st., Westminster, S.W.1. Dep. £3 3s.

County Wicklow Board of Health.—Water main from existing supply at Rathdrum town to premises of Avondale House, Rathdrum. P. J. Foley, E., 32-33, Lower Abbey-st., Dublin.

Leyland U.D.C.—Making-up of Mosley-st., Malden-st., Yewlands-av., Yewlands-dr., Wellfield-av., Haig-av., Chatsworth-rd. and certain back streets. S. Dep. £2 2s.

Rhondda U.D.C.—Making-up Brynwyndham-st., Tynewydd, Treherbert. E. Taylor, E. and S. Dep. £1 1s.

Ryde T.C.—Works in connection with widening of highway, reconstruction of carriageway and provision of footway nr. Black Bridge, Havenstreet. N. Barrett, Highway S., 5, Lind-st.

Sutton and Cheam T.C.—Making-up of Higher-dr., section 2. N. H. Michell, B.E. and S. Dep. £1 1s.

Willesden B.C.—Reconstructing sewer in Cambridge-rd., Kilburn. F. W. Brown, B.E. and S. Dep. £5 5s.

Woodstock T.C.—Main drainage. Howard, Humphreys & Sons, engineers, 17, Victoria-st., Westminster, S.W.1. Dep. £2 2s.

Zetland C.C.—Bottoming, regulating and surfacing 43 miles of roadway, Cunningsburgh-Sumburgh-rd., bridge of Fitch-Hillswick-rd., Veensgarth-Wallsrd. R. B. Carnegie, Road S., Brentham-pl., Lerwick, Shetland. Dep. £10.

SEPTEMBER 27.

Bedlingtonshire U.D.C.—Concrete roadways and footpaths, Church-ln. housing scheme. W. Hall, S. Dep. £1 1s.

Glamorgan C.C.—Road works at Rhos, Upper Longhor and Whitchurch. H. Rowland, C., Glamorgan County Hall, Cardiff. Dep. £5 each work.

Ilford T.C.—(a) Removal of tram track and reconstruction of carriageway, High-rd., and (b) asphalt surfacing to carriageway, Ley-st. L. E. J. Reynolds, B.E. and S. Deps. (a) £2 2s. and (b) £1 1s.

Ilford T.C.—Reconstruction of Goodmayes-ln. from Green-ln. to point approximately 220 yds. south. L. E. J. Reynolds, B.E. and S. Dep. £2 2s.

Ilford T.C.—Asphalt surfacing to carriageway, High-rd., between Woodlands-rd. and Green-ln. L. E. J. Reynolds, B.E. and S. Dep. £1 1s.

Tottenham T.C.—Widening and reconstruction works in Broad-ln. Acting B.E., Town Hall, Tottenham, N.15. Dep. £2.

SEPTEMBER 28.

Ealing T.C.—Land drainage, Horsenden Park. C. W. Seddon, B.E. Dep. £1 1s.

Halstead R.D.C.—Relaying approximately 90 yds. of 6 in. stoneware sewer and incidental works, Brook-st., Bures Hamlet. G. F. Dearman, S.

Herne Bay U.D.C.—Making-up of Westcliff-gdns. from Chamberlain-dr. to Sea-st. B. J. Wormlington, E. and S. Dep. £1.

King's Lynn T.C.—Reconstruction of part of Wisbech-rd. J. C. Matthew, B.E.

Merton and Morden U.D.C.—Making-up Camborne-rd. (section I) and Glenthorpe-rd. (secton II). E. and S. Dep. £1.

Royston U.D.C.—Making-up Serby-av. S.

SEPTEMBER 29.

Narberth R.D.C.—500 yds. of 2-in. and 1,000 yds. of 1-in. water main from Llandreuchaf Farm to Brechfa Farm, Llanycefn. J. Owen Parry & Lewis, consulting engineers, Ammanford.

SEPTEMBER 30.

Breconshire C.C.—Levelling of playing fields, etc., at Builth Wells County School. H. C. W. Strickland, County Architect, Brecon.

Feltham U.D.C.—Main drainage. H. G. Dodd, C. Dep. £2 2s.

Newcastle-under-Lyme T.C. — Construction of playing fields, etc., Roe-ln. Farm estate. J. Griffith, T.C. Dep. £1 1s.

OCTOBER 1.

Devon C.C.—Construction of Totnes by-pass (Westerly extension). A. Warren, C.S., 18, Cathedral-close, Exeter. Dep. £5 5s.

OCTOBER 3.

Dublin C.B.—Roadways and laying of mastic asphalt pavements on an area of approximately 39,200 sq. yds. City E. Charge 5s.

Faversham T.C.—580 yds. of 4-in., 6-in. and 7-in. pipe sewers at Lower-rd. on proposed housing scheme site. S. P. Andrews, B.S., 20, West-st Dep. £2.

Isle of Wight C.C.—Road improvement scheme at Winchester Corner, Shalfleet. County Highway Surveyor, 51, Pyle-st., Newport. Dep. £2 2s.

Public Appointments.

SEPTEMBER 19.

***Hunts C.C.**—Two Architectural Assistants. County S.

Nottingham T.C.—Junior Assistant in Quantity Surveyor's Office; also Junior Architectural Assistant in City Engineer's Dept. City E. and Surveyor.

West Riding of Yorkshire C.C.—Clerk of Works (Temp.). Education Officer, County Hall, Wakefield.

SEPTEMBER 20.

Birmingham E.C.—Two Lecturers. Principal, Central Technical College, Suffolk-st.

SEPTEMBER 22.

***Whitby U.D.C.**—Clerk of Works. C.

SEPTEMBER 23.

Essex C.C.—Architectural Assistants (Temp.). J. Stuart (F.), Chelmsford.

***Essex C.C.**—Senior Assistant Quantity Surveyor and two Architectural Assistants (Temp.), and two Architectural Assistants. J. Stuart (F.), Chelmsford.

SEPTEMBER 24.

Gateshead T.C.—Clerk of Works. B.E.

***Gloucestershire C.C.** — Senior Architectural Assistant. R. S. Phillips (F.).

***Nottingham C.C.**—Three Architectural Assistants (Temp.). E. W. Roberts (A.).

Staveley U.D.C.—Clerk of Works (Temp). C.

SEPTEMBER 25.

Norfolk C.C.—County Architect. County Architect, 25, Thorpe-rd., Norwich.

SEPTEMBER 26.

***London County Council.**—Visiting Teacher at Camberwell School of Arts and Crafts. Education Officer, County Hall, S.E.1.

Nottinghamshire CC. — Engineering Assistant. County Architect.

Portsmouth T.C.—Clerk of Works. City Architect.

SEPTEMBER 27.

Holborn B.C.—Technical Assistant. T.C.

SEPTEMBER 28.

***Gravesend T.C.**—Two Architectural Assistants (1 temp.). T.C. 4, Woodville-ter.

***Norwich T.C.**—Architectural Assistant (Temp.). City Architect.

SEPTEMBER 30.

***Gateshead T.C.**—Heating Engineering Assistant. B.E.

***West Sussex C.C.**—Junior Architectural Assistant (Temp.). C. G. Stillman (F.), Chichester.

OCTOBER 1.

***Cornwall C.C.**—Senior Assistant. County Architect, Truro.

Herefordshire C.C.—Three Architectural Assistants. W. Usher (A.), County Offices.

OCTOBER 6.

London.—Assistant Surveyors. Secretary, Civil Service Commission, Burlington-gdns., W.1.

NO DATE.

***Aldershot.**—Civilian Quantity Surveyors and Surveyors' Assistants. Chief Engineer (Room 28). Command Headquarters.

***Irvine (Ayrshire).**—Assistant Foreman (Building). Chief Superintendent of Ordnance Factories, Advertisement No. 239, Royal Arsenal, Woolwich London, S.E.18.

***London.**—Assistant Surveyors. Police Architect and Surveyor, New Scotland Yard, S.W.1.

***Preston.**—Two Architectural Draughtsmen (Temp.). C.R.E., Lancs Area, Fulwood Barracks.

***Sudan Government.**—Foreman of Works. Controller, London Office, Wellington House, Buckingham Gate, S.W.1.

GENERAL POSITION OF THE BUILDING INDUSTRY

"THE position of the building industry showed little change on the month," states the current issue of the Building Industries Survey, published by the Building Industries National Council, 5, Duke-street, Adelphi, W.C.2, "the information becoming available confirming recent tendencies. The seasonal improvement this year failed to attain its usual dimensions, and a more than seasonal decline must be expected now that the predominant seasonal influences reinforce the cyclical decline. This view is confirmed by the fact that unemployment in the building industry in July showed a greater increase on the year than in the previous month, and was the highest number recorded for July since 1935.

"The plan figures have been almost stable in recent months, the moving annual total for the last four months showing only a slight decline. It must, however, be pointed out that, judged by the standards of recent years, the figures are low, and it is worthy of particular notice that the total value of plans passed during the year ended July was the lowest for any such year since 1934.

"The stability of the plan figures as a whole has been due to the stability of housing plans. Among the non-residential categories the strong downward trend of factories and workshops persists, and plans for other buildings are now tending downward. Plans for schools and public buildings, on the other hand, show some recovery, and there was a rather surprising rise in July in plans for shops, offices and other business premises.

"The position of public works contracting also shows little change on the month, though the increase in unemployment as compared with a year ago was greater in July than in the previous month. No precise significance can be attached to this result until the number of insured operatives this year is known, but it is important to note that all the indications, whether relating to building, public works contracting or the general industrial position, point to the need for increased public works activity.

"The position of the materials industries in general is somewhat less satisfactory, and more than the normal seasonal decline in demand may be expected during the remainder of the year. This is likely to be true of materials in general, the decline in plans below the level of 1935, referred to above, indicating a further fall in activity. Moreover, work in connection with rearmament, which has made a not inconsiderable contribution to the maintenance of activity, has probably reached its peak, though in some areas a further stimulus may be felt. Housing activity, however, may be sustained by the efforts of local authorities to complete in time those classes of houses the rate of subsidy for which will be reduced at the end of the year.

"The B.I.N.C. index of building materials' share prices for July was 95.9 (1935=100), as compared with 90.8 in June and 118.3 a year ago, showing an increase of 5.6 per cent. on the month, but a decline of 18.9 per cent. on the year. On the month brick shares rose 7.2 per cent., paint 6.6 per cent., cement 6.3 per cent., and iron and steel 2.9 per cent. On the year cement shares fell 9.2 per cent., bricks 15.8 per cent., paint 20.9 per cent., and iron and steel 28.7 per cent."

TRADE NEWS

Deterioration of Structures in Sea-water.

The 17th (interim) report of the Committee of the Institution of Civil Engineers on this subject has now been issued by the D.S.I.R. (H.M. Stationery Offices, price 9d. net).

Electrical Domestic Appliances: A Catalogue.

A new catalogue of electrical domestic appliances has recently been issued by Messrs. Falk, Stadelmann and Co., Ltd., 83-93, Farringdon-road, E.C.1. It contains full details, with illustrations, of the firm's ranges of boiling rings, fires, cookers, heaters, refrigerators, lamps, boilers, washing machines, etc. Copies of the catalogue are obtainable from the firm on request.

A New Brochure on "Road Forms."

"Road Forms" is the title given a recent publication of Messrs. Blaw Knox, Ltd., Clifton House, Euston-road, London, N.W.1. It sets out the advantages claimed for Blaw Knox Road Forms for road construction. They are described as being simple in design and strongly constructed. The brochure, which contains a number of illustrations showing the method of fixing and setting the forms, states that Blaw Knox Road Forms ensure an even road surface with good riding qualities which will stand the heavy strain of modern traffic.

A Tile Catalogue.

Messrs. Carter and Co., Ltd., Poole, Dorset, have recently issued Catalogue 22, which deals with their frost-proof tiles. These tiles are made from a specially prepared plastic clay by a process which is claimed to render them proof against all conditions of exposure. They are made by hand and press and supplied in any shape, size or colour consistent with the material. Though made for exterior work, they are also used in interior work. Copies of the catalogue may be obtained free on request. It is uniform with all Carter catalogues and quarterlies, and to facilitate filing and reference this uniformity will be maintained by the firm in all its subsequent publications of this nature.

Steel Scaffolding for Temporary Footbridges.

The speedy coupling of plain-ended tubing and the economical production of steel scaffolding made possible by "Big Ben" fittings has resulted in steel scaffolding being employed for numerous other purposes. An interesting example is the erection of temporary footbridges, two having just been completed at Allan-way and Perryn-road, on Western-avenue, W.3, and another across the Great West-road near Osterley Station, Middlesex.

"Big Ben" steel scaffolding is also employed for the construction of grandstands, loading platforms and stages, ramps, shipbuilding and ship repairs, temporary roofs, tripods and shear legs, storage racks and bins, water storage tanks, palisades and crush barriers, hoppers, searchlight and observation towers, mining flumes, pipe line trestles, derricks and cranes (stationary and mobile), cable and ropeway pylons, scenic framework (film studios and theatres), temporary flooring supports (swimming baths), etc. etc. Full details may be obtained from The Steel Scaffolding Co., Ltd., 80, Regent-street, W.1.

Two Publications on Ventilation.

The Sturtevant Engineering Co., Ltd., 147, Queen Victoria-street, London, E.C.4, have recently issued two new publications, "Exhaust Ventilation and Cooling" and "Sturtevant Air Washers." The former describes and illustrates the methods employed in localised exhaust ventilation for the removal of fumes and vapours, and for providing supplies of cooling air to men or machinery and products. Illustrations show enamel spray booths equipped with a Sturtevant exhaust pipe, a large spun pipe works where a cool air supply for the men is provided by Sturtevant cold douche plants, and also the effective removal of steam in dye houses and paper mills.

The booklet dealing with air washers describes in detail the Sturtevant air washers, type A and type B. Type A is the standard apparatus used with plenum ventilating plant to produce a moderate cooling effect in summer and a humidity suitable for human comfort conditions in winter. Type B air washer is of greater length than type A, and the water is sprayed against the direction of the air flow through the apparatus, thus obtaining more intimate contact. A series of specially shaped baffles on the inlet prevents any external dampness which otherwise might occur.

Copies of the publications may be obtained on request.

A photograph showing the use of steel scaffolding for a temporary footbridge.
(See this page.)

CURRENT AND PROPOSED BUILDING WORK*

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

Bath.—Warehouse and coal bunkers, Lower Bristol-rd., for Bath and District Co-operative Society, Ltd., Westgate-bldgs. Plans by L. G. Ekins (F.), chief architect, 99, Leman-st., Stepney, E.1.

Belfast.—Extensions at aircraft factory of Short & Harland, Ltd., Queen's Island, at £150,000. Plans by Hobart & Heron, Scottish Provident-bldgs.

Birmingham.—Building shortly to be erected on site of King's Hall, Corporation-st. Jack Cotton & Partners, acting on behalf of the freeholders, have negotiated a lease with Easterns, Ltd., of East Ham; Sturman's, Ltd., brewers, Long-ln., Blackheath, propose rebuilding "Travellers' Rest" Inn, Long-ln., Blackheath. Architect, J. C. T. Cole (L.), Central-bldgs., Long-ln., Blackheath. Quantities being prepared.

Blackpool.—C.B. approved density plans from T. Braithwaite & Sons for development of land off Hawes Side-ln., and from H. Eckersley for development of land off Hawes Side-ln.—Imperial Garage Co., Ltd., to extend existing petroleum filling station at Imperial Garage, Dickson-rd.—Sketch lay-out plan from Fairbrother, Hall & Hedges for development of land on Willow Bank Farm estate approved. Plans passed: Blackpool Co-operative Society, Ltd., Bispham-rd., chapel, showroom, etc.; I. Fletcher, Ltd., Longridge and Weeton-avs., 24 houses and garages; Daniel Thwaites & Co., Fleece Hotel, Market-st., rebuild hotel.

Bolton.—J. Sharman & Sons, Ltd., brewers, Mealhouse-ln. Brewery, to reconstruct "Fleece" hotel, Bradshawgate. T. E. Smith & Sons, architects, Central-chambs., Folds-st. Estimated cost, £3,000. Quantities in course of preparation.

Braunstone.—Monastery of Blessed Sacrament Fathers. E. Bower (F.), 22, Greengate, Stafford.

Bromsgrove.—Mitchells & Butlers, Ltd., brewers, Cape Hill Brewery, Smethwick, Birmingham, propose rebuilding "Red Lion" p.h. at Alvechurch. Architect, S. T. Walker (A.), Essex House, Temple-st., Birmingham, 2. Quantities are being prepared. Hawkes & McFarlane, architects, Lombard House, Great Charles St., Birmingham, 3, for rebuilding of "Golden Cross" hotel, Marlbrook, for Showell's Brewery Co., Ltd., 120, Station-st., Burton-on-Trent. Tenders to be shortly invited.

Cavan.—New hospital for Joint Committee of Cavan and Monaghan, at £123,000.

Chester.—Diocesan Church Schools Association propose senior school for 320 girls and extensions to College School to accommodate 320 senior boys. Architect, F. C. Saxon (F.), 2, Stanley-st.

Coventry.—Miners' Welfare Central Fund Committee propose pithead baths at Newdegate Colliery with canteen for 1,450. Architect, J. H. Forshaw (F.), Romney House, Marsham-st., London.

Dewsbury.—Corporation approved:—Club, Battye-st., for the Salvation Army; alterations and additions to warehouse, Victoria Mills, Savile Town, Henry Day & Sons, Ltd.; warehouse, Batley Carr Mills, Joshua Ellis & Co., Ltd.

Deptford.—B.C. approved: Courage & Co., Ltd., Anchor Brewhouse, Horselydown, S.E.1, alteration and additions, "Dewdrop" p.h., 72, Clifton-rise.

Droitwich.—R.D.C. approved extension to office, Brickfield-rd., Worcester, Metal Constructions, Ltd.; 55 houses, Worcester-Kidderminster-rd., Waresley, J. C. McWhirten.

Dublin.—Plans approved by Corporation:—Cook-st. National Schools, St. Audeon's, Cook-st.; 38-39, Drury-st., rebuilding, Nicholl & Son; Charlemont st., addition, St. Ultan's Hospital; Cashel-rd., Crumlin, mission hall, Dublin City Mission; Collins-av., 24, houses, J. T. Wilkinson; Collins-av., 18 houses, J. O'Shea; St. Philomena's-rd., national schools, C.B.S. Schools; 11-13, Suffolk-st., rebuildng, Walpole's, Ltd.; Drumcondra, alterations to church, Select Vestry, Drumcondra Church; John's-ln., Thomas-st., extension to factory, John-st. Manufacturing Co., Ltd.

Durham.—No contracts let for rebuilding of "Duke of Wellington" Inn for Westoe Brewery Co., South Shields. Architect, E. M. Lawson, Barras-bldgs., Barras Bridge, Newcastle-on-Tyne.

East Boldon.—No contracts yet placed for sports-drome in Newcastle-rd. Architect, George E. Matkin, Fawcett-st., Sunderland.

Halesowen.—A. J. Green, architect, 3, Great Cornbow, Halesowen, near Birmingham preparing plans for mission church hall, Albert-rd., for Trustees.

Hebburn-on-Tyne.—North-Eastern Housing Association, Metrovick House, Northumberland-rd., Newcastle-on-Tyne, proposes houses on cleared land near School-st., Railway-st., Hebburn Colliery Football ground and near Harvey-st., and also 38 houses in Victoria-rd. East, from plans by T. A. Page, Son & Bradbury, 75, King-st., South Shields.—New R.C. senior school, architect, R. Burke, Singleton House, Northumberland-rd., Newcastle-on-Tyne.

Hove.—Additions are to be made to omnibus garage, etc., Conway-st. and Goldstone-st., for Brighton, Hove & District Omnibus Co., Ltd. Architect, H. J. Starkey, 15, Curzon-st., W.1.

Hull.—Salvation Army Authorities, 101, Queen Victoria-st., E.C.4, propose assembly halls on Bilton Grange, Endike-ln. and Derringham Bank housing sites. Plans by J. C. H. Vint, 101, Queen Victoria-st., London, E.C.4.

Kettering.—Board of Management of Joint Hospital proposing additions of isolation hospital. Architects, Blackwell & Storry, Gold-st.-chams. Tenders not yet invited.

Lewisham.—Plans approved: R. T. Read, maisonettes, Southend-ln., rear of Blacklands-rd., Catford; H. Macintosh, houses at Ringmore-rise and Lip-hook-cres., Forest Hill; R. J. Coles, alterations at 81-83, Dartmouth-rd., Forest Hill; The Bickley Co., Ltd., additions to Forest Hill Tennis Club; Clemence & Co., redrain garage premises adjoining Crown Hotel, Burnt Ash-hill; H. L. Langley, shops at 169, Sydenham-rd., Sydenham; Callow Bros., rebuild and redrain 74-76, Lawrie Park-rd.; Purvis & Purvis, additions at 1-4, Nyon-gr. and 1-5, Vevey-st., Catford; N. F. Cachemaille-Day, garage at Babies' Home, Lushington-rd., Bellingham; Charrington & Co., Ltd., additions at "Holly Tree," Dermody-rd., Lewisham; T. J. Rushton, parsonage at junction of Durham-hill and Churchdown, Downham; Wates, Ltd., lock-up garages and sheds to flats at corner of Bromley-rd. and Allerford-rd., Catford; New Ideal Homesteads, Ltd., houses in Bexhill-rd., Brockley, and maisonettes, Blythe Hill estate, Catford; and G. T. Harman, houses, "The Hall," Hall-dr., Sydenham.

Limerick.—Proposals to extend Limerick City Mental Hospital at £50,000 under consideration of Department of Local Government and Hospital Board.

Liverpool.—Corporation approved:—Chemistry laboratory, Pembroke-st., Barnish Silcock & Thearle, for University of Liverpool; rebuilding of public-house, "Stanley Arms," Westminster-rd., Medcalf & Medcalf, for Ind Coope & Allsopp, Ltd.; office and motor showroom, 33, 35, 37, Bold-st., D. A. Beveridge for W. Watson & Co., Ltd.; Sunday school, Fontenoy-st. and Webster-st., W. F. Horsburgh & Sons, for Third Church of Christ, Scientist; 40 houses, Lisleholm-rd., and 4 houses, Deysbrook-ln., Irving & Mosscrop, for North-Western Estates Development, Ltd.; alteration to nurses' home, 40, 42, 44, Upper Parliament-st., Gilbert Fraser, for Royal Southern Hospital Committee; rebuilding of institute premises, Limekiln-ln., Tatlock-st. and Myers-pl., E. R. Taylor & Son, for League of Welldoers; 4 houses and 4 shops, Booker's-av., Richard Owens & Son, for Owens & Owens, Ltd.; extension to factory, Cardwell-st., T. A. Ashworth, for Powell & Scholefield; reconstruction of warehouse floors, Blundell-st., A. Holt & Co., for Ocean Steam Ship Co., Ltd.; garage, Hillfoot-rd., Turner & Moss, Ltd., for Garston & District Co.-op. Soc.; alteration of factory, Naylor-st., W. P. Horsburgh & Son, for J. Edwards & Co., Ltd.; cold chambers, 18, Suffolk-st., W. Pecorini, Duke-st., Cold Stores & Ice Co., Ltd.; extension to factory, Penrhyn-st., A. J. Howcroft & Son, for B. Kershaw & Co., Ltd.; extension to form second portion of factory, Edge-ln., T. A. Ashworth & Son, for J. Peck & Co., Ltd.—Rev. P. Kennedy of St. Cecilia's, Green-ln., Stoneycroft, proposes church hall, senior school for 320 scholars, junior and infants' school of St. Columbia, Hillside-rd., Woolfall Heath, Huyton. Architect, Anthony Ellis (L.), The Temple, Dale-st.—J. Rubin, Ltd., London-rd., propose shops and warehouse, Constance-st. and Kempston-st. Architect, A. E. Shennan (F.), 17, North John-st.

BRITISH MADE

Henderson

Guaranteed

We invite you

SLIDING DOOR GEAR

to send for our technical representative and illustrated treatise — *free.*

Easily the best and competitive in price.

P. C. HENDERSON LTD., BARKING, ESSEX

Telephone: RIPPLEWAY 3406 (Privt. Branch Ex.).

London (G.W.R.).—Following bridges to be reconstructed:—Public footbridge over Vale of Neath line near Swansea Dock; bridge carrying Worcester and Hereford line over public road near Ledbury; bridge carrying part of Windsor branch and station platforms over public road and Windsor Gas Co.'s yard at Windsor; new bridge over railway at Barry-rd., Dinas Powis; reconstruct No. 4 span of Worcester-rd. bridge over Leominster and Bromyard branch; remove superstructure of Spwdwers-rd. bridge at Trimsaran-rd. and erect new bridge.

Newcastle-on-Tyne.—H. Dady, Ltd., 44, St. Andrews-st., Newcastle, propose warehouse, Stepney-st., to plans by White & Pearson, 33, Great Market. No contracts let.—It is proposed to rebuild Arthurs Hill Club. Plans by Hetherington & Wilson, 52, Westgate-rd. Y.M.C.A. proposes gymnasium to plans by J. Walton Taylor, Union-chams., St. John-st.—A. H. Fennell & Co., 16, West-st., Gateshead-on-Tyne, architects for extensive alterations to drapery premises of Rowland Blaylock, New Bridge-st.

North Shields.—Contracts still unsettled for rebuilding "Robin Hood" inn, for J. Rowell & Son, Gateshead. Architects, J. Oswald & Sons, Bradburns-chambs., Northumberland-st., Newcastle-on-Tyne.

Oxford.—Hall's Oxford Brewery Co., Ltd., propose to rebuild "Nag's Head" p.h., Hythe Bridge-st. Plans by J. C. Leed (F.), 21, Beaumont-st.

Portsmouth.—City Council to spend £105,000 on converting site of Lumps Fort into amusement centre.

Reading.—Extensions to be made to electricity switchhouse, London-rd., for Central Electricity Board, 1, Charing Cross, S.W.1. Consulting engineers, Merz & McLellan, 32, Victoria-st., S.W.1.

Scunthorpe.—T.C. approved:—23 houses, Warwick-rd. (Sandhouse Farm estate), Taylor & Coulbeck, Ltd., 20, Hawthorne-av., Grimsby; sports club and stadium, Diversion-rd., for Olympia Sports Club, 32, High-st., Scunthorpe; 19 houses, Trunk-rd. (Queensway), O. F. Chatterton, Somerby Hall, Barnetby.

Sheffield.—Plans approved by T.C.:—Saleshop and stores, The Moor, Town Tailors, Ltd., Porter-st.; concert room and additions, Bradfield-rd., Duncan Gilmour & Co., Ltd., Bradfield-rd.; garage and saleshop extension, E. Parkin, Brooklands-av.; licensed premises, garage and flat, Fretson-rd., Wulfric-rd. and Queen Mary-rd., concert room extensions, London-rd., Truswell's Brewery Co., Ltd., Abbeydale-rd.; licensed premises and flat, Sicey-av. and Ecclesfield-rd., Joshua Tetley & Son, Ltd., Leeds; saleshops and stores, Brightside and Carbrook Co-operative Society, Ltd., Lindsay-av.; warehouse and offices, Arundel-st., Matilda-st., Pilkington Bros., Ltd., Eyre-ln.; warehouse, workrooms and garage, Bennett-ln., M. Newman, Forge-ln.; 26 houses, Welwyn-rd., W. A. Wright, Jaunty-ln.; 32 houses, Welwyn-rd., Welwyn-close, H. Seymour, Jaunty-ln.; 34 houses and 26 garages, Horndean-rd., C. W. Alflat, Idsworth-rd.; 66 houses, Foxwood-av., Foxwood-gr. and Foxwood-rd., Hallewell Estates, Ltd., Foxwood estate; 60 houses, Holdings-rd., A. Quibell & Co., Arbourthorne-rd.; 24 houses, Sundown-rd., Bramley Hall-rd., and proposed street, E. & H. Oliver, Handsworth; 480 houses, Parson Cross estate, Estates Committee; flat and meeting hall, Mappin Pitt-st., The Royal Sheffield Institute for Blind, Charlotte-ln.

Slough.—E.C. approved new C. of E. senior schools in Ragstone-rd. Plans by Detmer Blow, 3, Carlos-pl., London, W.1.

Stafford.—T.C. approved:—Additions to Staffordshire General Infirmary; 48 houses, Holmcroft estate, West Heath Estates, Ltd.

Stockport.—T.C. to sell plot of land to Beverly's, Ltd., for rebuilding their premises at junction of Union-rd. and new River Mersey-rd.

Stockton-on-Tees.—Plans approved for model bakery in Bishopton-ave., for R. Sparks & Son. Architects, Kitching & Co., 21, Albert-rd., Middlesbrough.

Stoke-on-Trent.—Foundation-stone of new works for Wedgwood pottery firm laid at Barlaston.

Stretford.—T.C. approved:—Club room, concert hall, etc., Third-ave., British Legion Club (Trafford Park), Ltd.; extension, West Works (4), Westinghouse-rd., Metropolitan Vickers Electrical Co., Ltd.

Sunderland.—Premises for Steel & Co., Holmeside, to be reconstructed G. E. Matkin, Barclays Bank-chambs., architect.

Taunton.—Tate & Lyle, Ltd., 21, Mincing-la., E.C.3, to build sugar warehouse and depot, Creech Heathfield. Plans by Samson & Colthurst, 1, Hamilton-st. No contracts let.

Turton.—Edgworth Branch of National Children's Home and Orphanage proposing school and gymnasium for 320 senior boys and girls at £25,485. G. H. Herring (L.), 41, Milton-rd., Harpenden.

Welwyn Garden City.—Messrs. Barclay Corsets, Ltd., propose factory, etc., Hyde-way. Plans by Louis de Soissons (F.), Blue Ball-yd., St. James's-st., S.W.1. Quantities by S. A. Paine, F.S.I., 2, New-court, Lincoln's Inn, W.C.2.

Wombwell.—New "Horse Shoe" hotel to be rebuilt by Whitworth, Son & Nephew, of Wath-on-Dearne, at rear of present site.

Woolston—Brickwood & Co., Ltd., Portsmouth Brewery, Portsmouth, to build public-house to be called "Grove Tavern." Swift-st. Plans by company's architect, J. V. Nisbett. No tenders yet invited.

Worksop.—T.C. approved:—38 bungalows in Kilton Hill-rd., for Corporation; fracture block and corridor, Watson-rd., for Victoria Hospital Board

*See also List of Contracts Open.

****In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. List of abbreviations on page 555.**

RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1938.

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.]

	Crafts-men.	Lab-ourers.
Aberavon	1/7½	1/2¾
Aberdare	1/7	1/2½
Abergavenny	1/7	1/2¼
Abingdon	1/6	1/1½
Accrington	1/7½	1/2¾
Aldeburgh	1/3½	11¾
Aldershot	1/5½	1/1¼
Alfreton	1/7½	1/2¾
Alnwick	1/7	1/2¼
Altrincham	1/7½	1/2¾
Amble	1/7	1/2¼
Amersham	1/6	1/1½
Ammanford	1/7½	1/2¾
Andover	1/5½	1/1¼
Ardingley	1/5½	1/1¼
Arundel	1/5½	1/1¼
Ascot	1/5½	1/1¼
Ashby-de-la-Zouch	1/6	1/1½
Ashford (Kent)	1/5	1/0¾
Ashford (Middlesex)	1/7½	1/2¾
Ashington	1/7	1/2¼
Ashtead	1/7½	1/2¾
Ashton-under-Lyme	1/7½	1/2¾
Aylesbury	1/5½	1/1¼
Aylsham	1/4½	1/0½
Bagshot	1/5½	1/1¼
Banbury	1/5½	1/1¼
Barnsley	1/7½	1/2¾
Barnstaple	1/5½	1/1¼
Barrow-in-Furness	1/7½	1/2¾
Barry	1/7½	1/2¾
Basingstoke	1/5½	1/1¼
Bath	1/6½	1/2
Batley	1/7½	1/2¾
Beaconsfield	1/6	1/1½
Beccles	1/4	1/0
Bedford	1/6½	1/2
Berkhamsted	1/5	1/0¾
Berwick	1/7	1/2¼
Beverley	1/7½	1/2¾
Bexhill-on-Sea	1/5½	1/1¼
Bideford	1/5½	1/1¼
Biggleswade	1/5	1/0¾
Billericay	1/5	1/0¾
Birchington	1/5	1/0¾
Birkenhead	‡§1/9½	¶
Birmingham	1/7½	1/2¾
Bishop Auckland	1/7½	1/2¾
Bishops Stortford	1/6	1/1½
Blackburn	1/7½	1/2¾
Blackpool	1/7½	1/2¾
Blyth	1/7½	1/2¾
Bognor Regis	1/5½	1/1¼
Bolton	1/7½	1/2¾
Bournemouth	1/6½	1/2
Bracknell	1/5½	1/1¼
Bradford	1/7½	1/2¾
Bradford-on-Avon	1/4½*	1/0¾
Braintree	1/5½	1/1¼
Brentwood	1/7	1/2¼
Bridgwater	1/5½	1/1¼
Bridlington	1/7	1/2¼
Brighouse	1/7½	1/2¾
Brighton	1/6½	1/2
Bristol	1/7½	1/2¾
Broadstairs	1/5	1/0¾
Bromsgrove	1/6½	1/2
Buckley	1/7½	1/2¾
Bungay	1/3½	11¾
Burnham-on-Crouch	1/4	1/0
Burnley	1/7½	1/2¾
Burslem	1/7½	1/2¾
Burton-onTrent	1/7½	1/2¾
Bury	1/7½	1/2¾
Bury St. Edmunds	1/5	1/0¾
Buxton	1/7	1/2¼
Byfleet	1/6	1/1½
Cambridge	1/7	1/2¼
Canterbury	1/5	1/0¾
Cardiff	1/7½	1/2¾
Carlisle	1/7½	1/2¾
Carnforth	1/7½	1/2¾
Castleford	1/7½	1/2¾
Caterham	1/7½	1/2¾
Chard	1/4½*	1/0¾
Chatham	1/6	1/1½
Chelmsford	1/6	1/1½
Cheltenham	1/6½	1/2
Chepstow	1/6½	1/2
Chertsey	1/6½	1/2
Chester	1/7½	1/2¾
Chesterfield	1/7½	1/2¾
Chichester	1/5½	1/1¼
Chorley	1/7½	1/2¾
Cirencester	1/5*	1/0¾
Clacton	1/6½	1/1¼
Cleveleys	1/7½	1/2¾
Clitheroe	1/7½	1/2¾
Cobham (Surrey)	1/6½	1/2
Colchester	1/6½	1/2
Colwyn Bay	1/6½	1/2
Congleton	1/7	1/2¼
Coventry	1/7½	1/2¾
Cranbrook	1/5	1/0¾
Cranleigh	1/5½	1/1¼
Crawley	1/5½	1/1¼
Crewe	1/6½	1/2
Cromer	1/4½	1/0½
Crowborough	1/5½	1/1¼
Cuckfield	1/5½	1/1¼
Darlington	1/7½	1/2¾
Darwen	1/7½	1/2¾
Daventry	1/6	1/1½
Deal	1/5	1/0¾
Denbigh	1/6	1/1½
Derby	1/7½	1/2¾
Devizes	1/4*	1/0
Dewsbury	1/7½	1/2¾
Didcot	1/5½	1/1¼
Diss	1/4	1/0
Doncaster	1/7½	1/2¾
Dorchester	1/5*	1/0¾
Dorking	1/6	1/1½
Dover	1/5	1/0¾
Dovercourt	1/5½	1/1¼
Driffield	1/6	1/1½
Droitwich	1/6½	1/2
Dudley	1/7½	1/2¾
Dunstable	1/5½	1/1¼
Durham City	1/7½	1/2¾
Eastbourne	1/6½	1/2
E.Glam. (Mon. Val.)	1/7	1/2¼
East Grinstead	1/5½	1/1¼
Edenbridge	1/5½	1/1¼
Ely	1/4	1/0
Epping	1/7½	1/2¾
Exeter	1/6½†	1/2
Exmouth	1/5½	1/1¼
Fakenham	1/4	1/0
Falmouth	1/6	1/1½
Fareham	1/6½	1/2
Faversham	1/5	1/0¾
Felixstowe	1/6	1/1½
Filey	1/6	1/1½
Fleetwood	1/7½	1/2¾
Flint	1/7	1/2¼
Folkestone	1/5	1/0¾
Frinton-on-Sea	1/5½	1/1¼
Frome	1/4½*	1/0½
Gainsborough	1/6½	1/2
Gateshead	1/7½	1/2¾
Gillingham (Kent)	1/6	1/1½
Glossop	1/7½	1/2¾
Gloucester	1/6½†	1/2
Godalming	1/5½	1/1¼
Goole	1/7½	1/2¾
Gosport	1/6½	1/2
Grantham	1/6½	1/2
Gravesend	1/7	1/2¼
Great Yarmouth	1/5½	1/1¼
Grimsby	1/7½	1/2¾
Guildford	1/5½	1/1¼
Guilsborough	1/6	1/1½
Halifax	1/7½	1/2¾
Hanley	1/7½	1/2¾
Harpenden	1/6	1/1½
Harrogate	1/7½	1/2¾
Hartlepools	1/7½	1/2¾
Harwich	1/5½	1/1¼
Haslemere	1/5½	1/1¼
Hastings	1/5½	1/1¼
Hatfield	1/6½	1/2
Haywards Heath	1/5½	1/1¼
Hednesford	1/7	1/2¼
Hemel Hempstead	1/6½	1/2
Henley-on-Thames	1/5½	1/1¼
Hereford	1/5½*	1/1¼
Herne Bay	1/5	1/0¾
Hertford	1/6½	1/2
Heysham	1/7½	1/2¾
Hitchin	1/6	1/1½
Hoddesdon	1/6½	1/2
Holt (Norfolk)	1/3½	11¾
Horley	1/5½	1/1¼
Horsham	1/5½	1/1¼
Horwich	1/7½	1/2¾
Huddersfield	1/7½	1/2¾
Hull	1/7½	1/2¾
Hunstanton	1/4	1/0
Huntingdon	1/4½	1/0½
Ilfracombe	1/5½	1/1¼
Ingatestone	1/5½	1/1¼
Ipswich	1/6½	1/2
Isle of Thanet	1/5	1/0¾
Isle of Wight	1/4½	1/0½
Keighley	1/7½	1/2¾
Kenilworth	1/7½	1/2¾
Kettering	1/7	1/2¼
Kidderminster	1/6½	1/2
King's Lynn	1/5	1/0¾
Kirkham	1/7½	1/2¾
Knowle	1/7	1/2¼
Lancaster	1/7½	1/2¾
Leamington	1/7½	1/2¾
Leatherhead	1/6½	1/2
Leeds	1/7½	1/2¾
Leicester	1/7½	1/2¾
Leighton Buzzard	1/4½	1/0½
Letchworth	1/6	1/1½
Lewes	1/5½	1/1¼
Lichfield	1/6½	1/2
Lincoln	1/7½	1/2¾
Littlehampton	1/5½	1/1¼
Liverpool	‡§1/9½	¶
Llandudno	1/6½	1/2
Llanelly	1/7½	1/2¾
London—		
12 m. radius	1/9*	1/3¾
12-15 m. radius	1/8½*	1/3½
Long Eaton	1/7½	1/2¾
Longton	1/7½	1/2¾
Loughborough	1/7½	1/2¾
Louth	1/6	1/1½
Lowestoft	1/5½	1/1¼
Luton	1/7	1/2¼
Macclesfield	1/7	1/2¼
Maidenhead	1/6	1/1½
Maidstone	1/6	1/1½
Malvern	1/6	1/1½
Manchester	1/7½	1/2¾
Manningtree	1/4	1/0
Mansfield	1/7½	1/2¾
March	1/4½	1/0½
Margate	1/5	1/0¾
Market Harborough	1/6½	1/2
Matlock	1/6	1/1½
Melton Constable	1/3½	11¾
Melton Mowbray	1/6½	1/2
Merthyr Tydfil	1/7	1/2¼
Middlesbrough	1/7½	1/2¾
Middleton	1/7½	1/2¾
Middlewich	1/6½	1/2
Milford Haven	1/5½	1/1¼
Morecambe	1/7½	1/2¾
Morley	1/7½	1/2¾
Mundesley	1/4½	1/0½
Nantwich	1/6½	1/2
Nelson	1/7½	1/2¾
Newark-on-Trent	1/6½	1/2
Newbury	1/5½	1/1¼
Newcastle-on-Tyne	1/7½	1/2¾
Newcastle-u-Lyme	1/7½	1/2¾
New Forest	1/4½	1/0½
Newmarket	1/5½	1/1¼
Newport, Mon.	1/7½	1/2¾
Newport Pagnell	1/5½	1/1¼
Northampton	1/7½	1/2¾
Norwich	1/7½	1/2¾
Nottingham	1/7½	1/2¾
Nuneaton	1/7½	1/2¾
Oakham	1/6	1/1½
Oldham	1/7½	1/2¾
Ormskirk	1/7½	1/2¾
Oxford	1/7	1/2¼
Oxted	1/6	1/1½
Paignton	1/7	1/2¼
Peterborough	1/7	1/2¼
Plymouth	1/7½	1/2¾
Pontefract	1/7½	1/2¾
Pontypridd	1/7	1/2¼
Portsmouth	1/6½	1/2
Port Talbot	1/7½	1/2¾
Preston	1/7½	1/2¾
Pulborough	1/5½	1/1¼
Ramsgate	1/5	1/0¾
Reading	1/6½	1/2
Redditch (Northern)	1/6½	1/2
Redhill	1/6	1/1½
Reigate	1/6	1/1½
Retford	1/6	1/1½
Rickmansworth	1/7	1/2¼
Ripon	1/6	1/1½
Rochdale	1/7½	1/2¾
Rochester	1/6	1/1½
Rugby	1/7½	1/2¾
Saffron Walden	1/4	1/0
St. Albans	1/7	1/2¼
St. Helens	1/7½	1/2¾
St. Neots	1/4½	1/0½
Salisbury City	1/4½*	1/0½
Salisbury Plain	1/5½*	1/1½
Sawbridgeworth	1/5½	1/1½
Saxmundham	1/3½	11¾
Scarborough	1/7	1/2¼
Scunthorpe	1/7½	1/2¾
Selby	1/7½	1/2¾
Sevenoaks	1/6	1/1½
Sheerness	1/5	1/0¾
Sheffield	1/7½	1/2¾
Shipley	1/7½	1/2¾
Shoeburyness	1/7	1/2¼
Shoreham	1/6½	1/2
Shrewsbury	1/6½	1/2
Sittingbourne	1/5	1/0¾
Skegness	1/6½	1/2
Sleaford	1/6	1/1½
Slough	1/6½	1/2
Southampton	1/7	1/2¼
Southend-on-Sea	1/7	1/2¼
Southport	1/7½	1/2¾
South Shields	1/7½	1/2¾
Spalding	1/5½	1/1¼
Stafford	1/7	1/2¼
Staines	1/6½	1/2
Stamford	1/6½	1/2
Stevenage	1/6	1/1½
Stockport	1/7½	1/2¾
Stockton-on-Tees	1/7½	1/2¾
Stoke-on-Trent	1/7½	1/2¾
Stourbridge	1/7	1/2¼
Stourport	1/6½	1/2
Stowmarket	1/4	1/0
Stratford-on-Avon	1/6	1/1½
Stroud	1/6†	1/1½
Sunderland	1/7½	1/2¾
Sutton Coldfield	1/7½	1/2¾
Swaffham	1/3½	11¾
Swanage	1/5½*	1/1½
Swansea	1/7½	1/2¾
Swindon	1/6*	1/1½
Tamworth	1/7	1/2¼
Taunton	1/5½	1/1½
Tenterden	1/5	1/0¾
Thames Haven	1/7½	1/2¾
Thetford	1/4	1/0
Thorpe Bay	1/7	1/2¼
Todmorden	1/7½	1/2¾
Tonbridge	1/6	1/1½
Torquay	1/7	1/2¼
Totnes	1/5½	1/1½
Trowbridge	1/4½*	1/0½
Truro	1/4½	1/0½
Tunbridge Wells	1/6	1/1½
Uppingham	1/6	1/1½
Uttoxeter	1/6	1/1½
Wakefield	1/7½	1/2¾
Walsall	1/7½	1/2¾
Walsden	1/7½	1/2¾
Walton-on-Naze	1/5½	1/1½
Ware	1/6½	1/2
Warminster	1/4½*	1/0½
Warrington	1/7½	1/2¾
Warwick	1/7½	1/2¾
Wellingborough	1/7	1/2¼
Wells (Norfolk)	1/3½	11¾
Welwyn	1/6½	1/2
Welwyn Gar. City	1/7½	1/2¾
West Bromwich	1/7½	1/2¾
Westcliff-on-Sea	1/7	1/2¼
Weston-super-Mare	1/6½	1/2
Weybridge	1/6½	1/2
Weymouth	1/5*	1/0¾
Whitby	1/6½	1/2
Whitstable	1/5	1/0¾
Widnes	1/7½	1/2¾
Wigan	1/7½	1/2¾
Wigton	1/6	1/1½
Willington	1/7	1/2¼
Wilmslow	1/7½	1/2¾
Winchester	1/5½	1/1½
Windermere	1/6	1/1½
Windsor	1/6½	1/2
Wisbech	1/4½	1/0½
Witham	1/5½	1/1½
Woking	1/6	1/1½
Wokingham	1/5½	1/1½
Wolverhampton	1/7½	1/2¾
Woodbridge	1/4½	1/0½
Worcester	1/7	1/2¼
Workington	1/6½	1/1½
Worksop	1/6	1/2
Worthing	1/5½	1/1½
Wrexham	1/7	1/2¼
Wroxham	1/5	1/0¾
Wycombe	1/6	1/1½
Wymondham	1/4	1/0
Yeovil	1/5½	1/1½
York	1/7½	1/2¾

* Painters ½d. less than other Craftsmen. † Painters ¼d. less than other Craftsmen. ‡ Plasterers 1/10

¶ Tradesmen's Labourers 1/4½. Navvies and General Labourers 1/3¾

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

For Building Trade Wages in Scotland see page 564

CURRENT PRICES FOR BUILDING WORK IN LONDON.

Note.—These prices apply to new buildings only. They cover superintendence by foreman and carry a profit of 10 per cent. on the prime cost, without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts, and from 1s. 6d. per £100 Fire Insurance. The whole of the information given is copyright.

		£	s.	d.
PRELIMINARIES.				
Hoardings, with suitable gate, 8 ft. high	per ft. run	0	3	0
Steel scaffolding for brickwork	per sqre.	1	5	0
Steel scaffolding for stone building	,,	1	10	0
Steel gantry for stone building	per ft. run	2	10	0
Office, shed for cement and mess-room	say	75	0	0
EXCAVATOR.				
Digging, throwing out and filling into carts and carting to shoot, 5 ft. deep	per yd. cube	0	7	9
Add if stiff clay	,,	0	1	0
Add for every additional 5 ft.	,,	0	0	6
Add if in trenches	,,	0	0	9
Add to price of digging for breaking up concrete foundation and brickwork	,,	0	10	0
Return, fill and ram	,,	0	1	9
Fill into carts and cart away	,,	0	3	6
Planking and strutting to trenches	per ft. super	0	0	3½
Planking and strutting to sides of basement excavation next roadway	,,	0	1	4
Needling, flying and raking shores and removing after and carting away	per ft. cube	0	6	9
CONCRETOR.				
Portland cement and ballast concrete 1-6 in. foundations	per yd. cube	1	2	0
Add in underpinning in short lengths	,, ,,	0	6	0
Concrete in floors, ¾ in. aggregate, and sand, 1-2-4—				
4 in. thick	per yd. super	0	3	4
6 in. thick	,, ,,	0	4	8
Add if trowelled smooth	,, ,,	0	0	9
Add for hoisting, each floor	,, ,,	0	0	3
Concrete 1-2-4 in. beams and stanchions	per ft. cube	0	1	4
Concrete in lintols, with steel rod reinforcement each 4½ in. width and shuttering	,, ,,	0	4	0
1½ in. centering, with stout supports for concrete floors	per square	2	2	0
Do. to sides and soffites of beams	per ft. super	0	0	8
Do. to sides of stanchions	,, ,,	0	0	7
Steel rod reinforcement under ⅝ in. diameter, cut, bent and placed in position	per cwt.	1	8	0
Do. do. over ⅝ in. diameter	,,	1	5	0
BRICKWORK.				
Reduced to 1½ brick in flettons, lime mortar	per rod	26	0	0
Add for 2nd hard stocks	,,	8	0	0
Add for Blue Staffordshire	,,	22	0	0
Add to above if in 1-4 cement	,,	0	15	0
Add if in backing to stonework	,,	1	5	0
Add if in underpinning in cement	,,	4	10	0
Add if above 40 ft. to 60 ft. high	,,	2	0	0
SUNDRIES.				
Damp course in double course of slates, breaking joint	per ft. super	0	0	11
Vertical do. do.	,,	0	1	2
Bitumastic	,,	0	0	5
Lead core	,,	0	0	10
Cut, tooth and bond new to old brickwork	,,	0	1	0
Rake out joints of brickwork	,,	0	0	1
Leave chase for concrete floor	per ft. run	0	0	2
Cut chase 4½ in. deep for concrete floor	,,	0	1	2
Leave chase for vertical pipe	,,	0	0	4
Cut chase for vertical pipe	,,	0	1	4
Rake out joint for flashings and point	,,	0	0	2
Do. stepped do.	,,	0	0	4
Do. for asphalt skirting	,,	0	0	2
Build in ends of timbers	each	0	0	4
Do. steel joists up to 12 in. deep	,,	0	0	6
Do. step and make good facings	,,	0	1	6
Set and flaunch chimney pots	,,	0	7	6
Render fire openings	,,	0	2	0
Bed and point door frames one side	,,	0	3	0
Do. both sides	,,	0	4	6
Do. window frames, one side	,,	0	4	0
Setting only register grate	,,	1	0	0
Do. interior hearths and mantles	,,	1	15	0
Do. kitchen range, large	,,	5	0	0
Fix air brick and form flue	,,	0	2	0
Cut holes for pipes and make good facings, 9 in. wall	,,	0	2	0
Do. do. 13½ in. wall	,,	0	2	6
Do. large pipes and do. 9 in. wall	,,	0	3	0
Do. do. 13½ in. wall	,,	0	3	6
FACINGS.				
Extra for facings in Flemish bond for each 10s. per thousand over the price of Flettons	per ft. super	0		1½
Pointing facings to approval	,,	0		3
Arches extra over Flettons in stocks	,,	0		8
Do. in reds	,,	1		0
Do rubbed and gauged in putty	,,	5		9

		£	s.	d.
PARTITIONS.				
2 in. breeze slab partitions in cement	per yd. super	4		0
3 in. do. do.	,,	4		6
2 in. hollow-tile do.	,,	4		9
3 in. do. do.	,,	5		6
PAVING.				
1 in. granolithic paving gauged 5—2	per yd. super	2		7
1¼ in. do. do.	,,	2		11
1 in. × 6 in. covered skirting	per ft. run	0		10
ASPHALT (NATURAL).				
½ in. horizontal damp course	per ft. super	0		6
¾ in. horizontal damp course	,,	0		8
¾ in. vertical do. in two layers	per yd. super	9		6
¾ in. in flats, two layers	,,	6		0
Angle fillet	per ft. run	0		3
6 in. skirting and angle fillet and jointing top edge	,,	1		0
DRAINAGE. Excavate, trench for drain and throw out, return, fill and ram, and including any planking and strutting required, and cart away surplus earth per ft. run	1 ft. deep	0		5
	2 ft. deep	0		10
	3 ft. deep	1		3
	4 ft. deep	1		8
	5 ft. deep	4		2
	6 ft. deep	5		0
	7 ft. deep	5		10
	8 ft. deep	6		8
4 in. best quality glazed stoneware drain pipe, socketed joints, yarn and neat cement, on and including cement concrete bed, 18 in. wide and 6 in. thick, and benched up on each side of pipe	per ft. run	2		4
6 in. do. do. do. but concrete bed 20 in. and 6 in. thick	,,	3		0
9 in. do. do. do. but concrete bed 23 in. wide and 6 in. thick	,,	4		11
Extra for 4 in. bends	each	2		6
Do. 6 in. ,,	,,	3		6
Do. 9 in. ,,	,,	5		6
Extra for 4 in. junctions	,,	2		9
Do. 6 in. ,,	,,	3		9
Do. 9 in. ,,	,,	6		0
4 in. stoneware gully, encased in concrete and making good granolithic paving	,,	13		0
6 in. do.	,,	14		0
9 in. do.	,,	18		6
4 in. stoneware interceptor, and surround with concrete	,,	1	5	0
6 in. do.	,,	1	10	0
9 in. do.	,,	2	10	0
IRON DRAINS.				
4 in. C.I. drain and laying and jointing in molten lead	per ft. run	3		4
6 in. do. do.	,,	5		0
Extra for 4 in. bends	each	10		0
Extra for 6 in. bends	,,	18		0
Extra for 4 in. junctions	,,	17		6
Extra for 6 in. junctions	,,	30		0
MASON.				
Bath stone and all labour, fixed	per ft. cube	10		9
Portland stone and all labour, fixed	,, ,,	17		9
York stone templates, fixed	,, ,,	12		6
York stone steps, fixed	,, ,,	16		0
York stone cills, fixed	,, ,,	1	2	0
SLATER.				
24 × 12 Bangor slates laid to 3 in. lap secured with zinc nails	per square	3	18	6
20 × 10 do.	,,	3	13	6
16 × 8 do.	,,	3	11	6
Extra to eaves course	per ft. run		0	9
Extra to top edge and square abutments	,,		0	4½
Extra to verge and labour only, bedding and pointing	,,		0	7½
Raking, cutting and waste	,,		0	7
Half-round red ridge tile	,,		1	2
Half-round blue ridge tile	,,		1	8
Fixing only soakers	per dozen		0	9
Red hand-made sand-faced tiles laid to 4 in. gauge, nailed every fifth course with galvanised iron nails	per square	3	0	0
Extra to eaves course	per ft. run		0	5
Extra to top edge and square abutments	,, ,,		0	3½
Extra to verge and bed and point	,, ,,		0	11
Half-round ridge	,, ,,		1	4
Bonnet hips, including cutting and waste (both sides)	,, ,,		3	8
Valley tiles, including cutting and waste (both sides)	,, ,,		3	6
Fixing only soakers	per dozen		0	9

CURRENT PRICES FOR BUILDING WORK IN LONDON.—continued.

CARPENTER AND JOINER.

		s. d.
Fir framed in plates	per ft. cube	4 0
Do. joints	,, ,,	4 6
Do. roofs, etc.	,, ,,	5 3
Do. trusses	,, ,,	6 9

		¾in.	1in.	1¼in.
Deal rough close boarding	per sq.	32/-	38/-	47/-
Battens for slating	,,	10/-	11/-	12/-

Centre for arches	per ft. super	1 6
Gutter boards and bearer	,, ,,	1 0

FLOORING.

		¾in.	1in.	1¼in.	1½in.
Deal edges shot	per sq.	—	41/-	49/-	58/-
Do. tongued and grooved	,,	—	46/-	55/-	67/-
Do. matchings	,,	42/-	47/6	—	—
Moulded skirtings, including backings and grounds	per ft. super	1/4	1/7	1/9	2/3
Mitres	each	-/6	-/8	-/9	1/-
Stop ends	,,	-/3	-/4	-/4	-/6

SASHES AND FRAMES.

		s. d.
One-and-a-half in. moulded sashes	per ft. super	1 9
Two in. do. do.	,, ,,	2 0
Add for fitting and fixing	,, ,,	0 2
Deal cased frames, 1 in. linings, 1¼ in. pulley and stiles, 2 in. moulded sashes, in squares, hardwood cill, double hung with pulleys, lines and weights, average size	,, ,,	3 3

DOORS.

		1½in.	1¾in.	2in.
Two-panel square framed	per ft. super	2 1	2 3	2 5
Four-panel do.	,, ,,	2 4	2 6	2 9
Two-panel moulded both sides	,, ,,	2 6	2 9	2 11
Four-panel do. do.	,, ,,	2 9	2 11	3 2

		£ s. d.
Flush doors. 1½ in. to 2 in. finished thickness skeleton core, covered each side with Columbian pine ply, solid pine edging, 2 ft. 6 in. by 6 ft. 6 in.	each	1 15 0
Do., covered with Gaboon mahogany ply, solid mahogany edging, 2 ft. 6 in. by 6 ft. 6 in.	,,	2 0 0
Solid core, all as first item	,,	2 0 0
Solid core, all as second item	,,	2 5 0
Shaped peep holes, 4 sided	,,	0 5 0
Hexagonal holes	,,	0 6 0
Circular holes	,,	0 7 0

FRAMES.

		s. d.
Deal wrot moulded and rebated	per ft. cube	12 0
Hardwood do. do.	,, ,,	36 0

		1in.	1¼in.	1½in.
Plain deal jamb linings, framed	per ft. super	1 7	1 8	1 11
Deal shelves and bearers	,, ,,	1 2	1 4	1 7
Add if cross-tongued	,, ,,	-/2	-/2	-/2
Deal window board, tongued to oak cill and bearers	,, ,,	1 6	1 9	2 0

Deal moulding, tongued and grooved to window board	per ft. run	0 6

SUNDRIES.

		s. d.
Deal architrave, including mitres per sectional inch.	per ft. run	0 1
Glazing beads, deal fixed	,, ,,	0 2
Do. fixed with brass screws and cups	,, ,,	0 4
Rebate	,, ,,	0 0½
Groove	,, ,,	0 0½
Notching	,, ,,	0 2
Tongued and grooved angle	,, ,,	0 3½
Rounded heel and hollow	,, ,,	0 2½

STAIRCASES.

		1in.	1¼in.	1½in.	2in.
Deal treads and risers on and including rough brackets	per ft. super	2/-	2/3	2/8	—
Deal strings, wrot and framed	,, ,,	—	—	2/2	2/8
Housings	each				0 9
Mahogany handrail, average 3 in. x 3 in.	per ft. run				5 6
Add if ramped	,, ,,				11 0
Add if wreathed	,, ,,				1 2 0

FIXING ONLY IRONMONGERY.

	s. d.
Barrel bolts	0 8
Sash fasteners	1 0
Casement fasteners	1 2
Casement stays	1 2

FIXING ONLY IRONMONGERY—*Continued.*

	£ s. d.
Flush bolts	1 6
Cupboard locks	1 6
Rim locks and furniture	2 0
Mortice locks and furniture	4 0
Floor springs, including oil	1 0 0
Overhead springs	5 0

FOUNDER AND SMITH.

		£ s. d.
Rolled steel joists	per cwt.	1 1 0
Compound girders	,,	1 4 0
Stanchions	,,	1 6 0
Roofwork	,,	1 12 0

RAINWATER GOODS.

		3 in.	4 in.	5 in.	6 in.
Half-round eaves gutters and fixing	per ft. run	1/3	1/4	1/10	1/11
Ogee do. do.	,, ,,	1/5	1/6	2/1	2/9
R.W. pipe and fixing	,, ,,	1/7	2/1	—	—
Extra for shoes and bends	each	3/3	4/6	—	—
Do. stopped ends	,,	1/3	1/7	2/-	3/-
Do. nozzles and angles	,,	2/7	3/-	4/2	4/8

PLUMBER.

		s. d.
Milled lead and laying in flashings and gutters	per cwt.	40 0
Do. in flats	,,	39 0
Extra labour and solder in cesspools	each	6 0
Welt joint	per ft. run	0 4
Soldered seam	,, ,,	1 6
Copper nailing—close	,, ,,	0 3
Do. do. open	,, ,,	0 2
Soldered dots	each	2 0
Bossed ends to rolls	,,	0 6

	½in.	¾in.	1in.	1¼in.	1½in.	2in.	4in.
Lead overflow per ft. run	-/8½	1/-	1/6	1/9	2/1	2/9	—
,, service ,,	1/2	1/9	2/8	3/6	4/-	5/3	—
,, soil ,,	—	—	—	—	—	—	6/-
Bends in pipe each	—	—	—	—	1/9	2/-	5/6
Wiped solder joints ,,	1/9	2/3	2/6	3/-	3/4	4/-	5/9
Lead traps and cleaning screws ,,	—	—	—	6/6	9/6	—	—
Stopcocks and joints ,,	11/-	14/-	18/-	—	—	—	—

PLASTERER.

		s. d.
Render, float and set in lime and hair	per yd. super	2 0
Do. narrow widths	per ft. super	0 4
Do. and set with Sirapite	per yd. super	2 3
Do. narrow widths	per ft. super	0 4
Do. and set with Keenes	per yd. super	3 0
Do. narrow widths	per ft. super	0 5½
Add sawn lathing	per yd. super	1 4
Add metal lathing (not including hangers or runners for suspended ceilings)	,, ,,	2 4
Portland cement screed	,, ,,	1 7
Do. plain face	,, ,,	3 3
Mouldings in plaster	per 1 in. girth	0 1½

GLAZIER.

		s. d.
24 oz. sheet	per ft. super	0 7½
26 oz. sheet	,, ,,	0 8
24 oz. Obscured sheet	,, ,,	0 8½
Double Cathedral	,, ,,	0 9½
Majestic	,, ,,	0 10
Flemish	,, ,,	0 10
Pinhead Morocco	,, ,,	0 10
¼ in. rough rolled or cast plate	,, ,,	0 10½
¼ in. wired cast plate	,, ,,	1 1½

PAINTER.

		s. d.
Preparing and distempering, two coats	per yd. super	0 7½
Knotting and priming	,, ,,	0 7
Plain painting, one coat	,, ,,	0 9
Do. two coats	,, ,,	1 2
Do. three coats	,, ,,	1 9
Do. four coats	,, ,,	2 4
Graining	,, ,,	2 3
Varnishing, twice	,, ,,	1 9
Sizing	,, ,,	0 3
Flatting	,, ,,	0 7
Enamel	,, ,,	1 1
Wax polishing	per ft. super	0 3
French polishing	,, ,,	1 2
Preparing for and hanging paper	per piece	2/- to 4/-

PRICES CURRENT OF MATERIALS*

Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry.

CHANGES OF THE WEEK.—Lead advances £1. Linseed Oil drops 1d.

BRICKS, &c.

Delivered to site, City and Central Area, Full Lorry Loads. £ s. d.

Best Stocks 4 15 0
Second Hard Stocks 4 8 0

Per 1,000. Delivered at London Goods Stations.

2½ in Phorpres.	King's Cross Station. per 1,000.	To sites in W.C. District. per 1,000
	s. d.	s. d.
Pressed bricks	46 3	50 6
Cellular bricks	46 3	50 6
Keyed bricks	48 3	52 6
Cellular Keyed bricks	48 3	52 6
Rustic bricks	*66 3	*70 6
Cellular Rustic bricks	*66 3	*70 6
Single Bullnose	64 3	68 6
White bricks	*66 3	*70 6
Sandfaced bricks	—	75 6

* Subject to a special discount of 2s. per 1,000 if accompanied by order for Pressed £ s. d.

White Midhurst Facing Bricks (delivered London site) 3 12 6
Best blue Pressed Staffs 8 6 6
Do., Bullnose 8 16 6
Blue Wire Cuts 7 4 0

Best Stourbridge Fire Brick:—

	£ s. d.		£ s. d.
2½ in.	7 15 0	3 in.	8 15 0

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretcher	24 0 0	D'ble Str'tch'rs ..	32 10 0
		D'ble Headers ..	29 10 0
Headers	23 10 0	One side & two ends	33 10 0
Quoins, Bullnose and 4½in. Flats.	30 10 0	Two sides & one end	34 10 0
		Splays and Squints	31 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

2" per yd. sup.	2 3	3" per yd. sup.	2 9
2½" " "	2 6	4" " ...	3 1

CLINKER CONCRETE.

2" per yd. sup.	1 6	3" per yd. sup.	2 0
2½" " "	1 8	4" "	2 4

CRANHAM TERRA COTTA.

2" per yd. sup.	3 0	3" per yd. sup.	3 8
2½" " "	3 6	4" " ..	4 7

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3" ..	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4" ..	3 9

Per yard super d/d. Free on site, London.

	s. d.	
Thames Ballast	7 3	per yd.
Pit Ballast	6 3	" "
Pit Sand	7 9	" "
Washed Sand	8 3	" "
½in. Shingle	7 3	" "
¾in. Broken Brick ..	11 3	" "
Pan Breeze	8 3	" "

} delivered 2 miles radius Paddington.

CEMENT.

Best British Portland Cement. Standard Specification delivered London Area in jute sacks (11 to ton), or paper bags (20 to ton) free (non-returnable):— £ s. d.

4 ton loads and upwards site ..... Per ton 2 2 0
1 ton to 4 tons site 2 5 0
Alongside Vauxhall in 80-ton lots 1 19 6

"Ferrocrete" Rapid Hardening Cement:—

4 ton loads and upwards site 2 8 0
1 ton to 4 tons site 2 11 0
Alongside Vauxhall in 80-ton lots 2 5 6

Stores in Reserved Bins at Works 1/6 ton extra.

NOTE.—Jute sacks are charged 1s. 6d. each and credited 1s. 6d. nett, if returned in good condition within three months, carriage paid.

"Aquacrete" Water Repellent, "Blue Circle" Cement, 30/- per ton extra on ordinary "Blue Circle" Portland Cement prices.

"Colorcrete" Nos. 1 and 2 Coloured Rapid Hardening Portland Cement in 1-cwt. paper bags free (non-returnable) in 1-ton lots and upwards site. 3 9 0

"Colorcrete," not rapid-hardening, in 1-cwt. paper bags free (non-returnable), according to colour, from £7 to £15 10s. per ton.

"Snowcrete" White Portland Cement in 1-cwt. paper bags free (non-returnable) 1 tons and upwards site. 8 15 0

Super Cement (Waterproof) paper bags free 3 12 0
Roman Cement £6 15 Keene's Cement, White 6 0 0
Parian Cement £6 0 " " Pink 5 12 6

Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink ..	3 2 0	Sirapite, Coarse	3 10 0
" White	3 12 6	" Finish	3 18 0
Pioneer	3 10 6		
Super Carbo ..	2 7 6	} 4-ton loads & over London Area, paper bags free.	
Carbo Setting	2 12 6		
Best Ground Blue Lias Lime ..	1 17 6	Grey Stone Lime ..	2 2 0
		Chalk Lime	2 2 0
Granite Chippings	1 12 0	Hair per cwt.	2 7 6

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in sacks 37s. per ton at rly. dep.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube. .... s. d. 2 10½

BEER STONE—RANDOM BLOCK—

Free on rail at Seaton Station .. per ft. cube 2 3
Delivered free on rail Nine Elms, S.R. " 3 1½

Selected approximate size one way, 1d. per cubic ft. extra. selected approximately three sizes or for special work, 3d. per cubic ft. extra.

PORTLAND STONE— s. d.

Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube 4 5
Do. do. delivered on road waggons as above stations, per ft. cube 4 6
White basebed, 3d. per ft. cube extra.

NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.

HOPTON-WOOD STONE—

F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb. 14 0
Sawn two sides. 22 6

HOPTON-WOOD STONE—

Sawn three or four sides 27 9

YORK STONE, BLUE.—*Robin Hood Quality.*

Delivered at any Goods Station, London.

6 in. sawn two sides landings to sizes (under 30 ft. super) ..... per ft. super 5 0
6 in. rubbed two sides, ditto .. " 5 6
3 in. sawn two sides slabs (random sizes) ..... " 2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) ..... " 1 6½
1½ in. to 2 in., ditto ..... " 1 3½

HARD YORK—

Delivered at any Goods Station, London.

Scappled random blocks ..... Per ft. cube 6 3
6 in. sawn two sides landings to sizes (under 40 ft. super) ..... per ft. super 5 1½
6 in. rubbed two sides, ditto .... " 6 1½
4 in. sawn two sides slabs (random sizes) ..... " 3 1½
3 in. ditto ditto ..... " 2 5
2 in. self-faced random flags. ... Per yd. super 7 6

CAST STONE.

Delivered in London area in full van loads, per ft. cube: Plain, 7s. 6d. Moulded, 8s. 6d. Sills, 10s. 0d.

HARD WOOD.

1 INCH AND UP THICK

Average price for prime quality. £ s. d.

Dry Austrian Wainscot, per ft. cube 0 17 0
Dry American and/or Japanese Figured Oak, per ft. cube ..... 10 0 to 0 12 6
Dry American and/or Japanese plain Oak, per ft. cube 0 11 6
Dry sq. edged Honduras Mahogany, per ft. cube 0 15 0
Dry log-cut Honduras Mahogany, per ft. cube ..... 12 6 to 0 16 6
Dry Cuba Mahogany, per ft. cube. 1 1 0
Dry Teak, per ft. cube. 0 14 0
Dry American Whitewood, per ft. cube. ... 0 10 6
Best Scotch Glue, per cwt. 3 0 0
Liquid Glue, per cwt. ..... 4 7 0 to 5 10 0

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 ×11	£26 10	3 × 6	£22 10
4 × 9	26 10	3 ×11	26 10
4 × 8	24 10	2 ×11	26 10
4 × 7	24 10	3 × 9	23 10
3 × 8	22 10	2½ × 9	23 10
3 × 7	22 10	3 × 4½	22 0
2½ × 7	22 10	3 × 4	22 0

PLANED BOARDS.

1 × 11.	£26 10	1 × 9	£25 0

PLAIN EDGE FLOORING.

Inches.	Per sq.	Inches.	Per sq.
¾	17/-	1¼	28/-
⅝	20/-	1½	35/-
1.	22/-		

HUDDERSFIELD
Building Society

Experience has shown that the arrangements made by the Huddersfield to assist occupier borrowers have given the utmost satisfaction, and the service rendered has been greatly appreciated by builders' clients.

Write for information to The Huddersfield Building Society, Britannia House, 203, Strand, London, W.C.2, or to the Head Office, Britannia Buildings, Huddersfield. Andrew Stewart, C.A., Managing Director.

WHEN YOU INVEST—A HOUSE IS BEST

TONGUED AND GROOVED FLOORING.		MATCHING (BEST).	
Inches.	Per sq.	inches.	Per sq.
1	22/6	⅝	18/-
1¼	29/-	¼	20/-
1½	36/-	1	26/-
ins. BATTENS.	s. d.	SAWN LATHS.	s. d.
¾×2 per 100 ft.	2 6	Per bundle.	2 4

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12	31 5 0	18 by 10	16 10 0
22 by 12	26 5 0	18 by 9	14 17 6
22 by 11	23 12 6	16 by 10	14 7 6
20 by 12	23 2 0	16 by 8	11 6 0
20 by 10	20 15 0		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. ..... Per 1,000 f.o.r. London.

Best machine-made tiles from Broseley or Staffordshire district	£4 2 6
ditto hand-made ditto	4 17 6
Ornamental ditto	5 2 6
Hip and valley tiles (per dozen) { Hand-made	0 8 6
{ Machine-made	0 8 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

R.S. Joists, cut and fitted.	£17 10 0
Plain Compound Girders	20 10 0
" " Stanchions	22 10 0
In Roof Work	27 10 0

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	18 5 0	⅝ in. to ½ in. ..	16 15 0
⅜ in.	17 5 0	¾ in. to 2¾ in. ..	16 5 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £10 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes and Tubulars. Sizes. ⅛in. to ⅜in.	Standard Wrot. Mild Steel Tubes and Tubulars. Sizes. ½ in. to 2in.	Standard Flanges. Sizes. ⅛in. to 2in.	Standard Fittings.
	%	%	%	%
Gas	60	65	62½	58½
Water	57	62½	62½	55
Steam	53½	58½	51½	50
Gal. gas ..	50	55	51½	48½
Galv. water	45	50	43½	43½
Galv. steam	38½	43½	38½	40

C.I. HALF-ROUND GUTTERS—London Price ex Works

Per yd. in 6 ft. lengths.	Angles and Gutters.	Angles and Nozzles.	Stop Ends.
3in.	1/9½	1/8	7d.
3½in.	2/1	2/-	8½d.
4in.	2/1	2/-	8½d.
4½in.	2/2½	2/1	9d.
5in.	2/4½	2/4	10d.
	O.G. GUTTERS.		
3in.	2/1	2/-	8½d.
3½in.	2/3½	2/2	9½d.
4in.	2/5	2/4	10½d.
4½in.	2/6	2/5	1/0½
5in.	2/10	2/9	1/2½

RAIN WATER PIPES, &c.

Per yd. in 6fts.	Pipe.	Bends, stock angles.	Branches. stock angles.
2in.	2/8½	1/8	2/5½
2½in.	2/9½	1/11	2/11½
3in.	3/8	2/4½	3/7½
3½in.	4/1	2/10½	4/1½
4in.	4/9½	3/5	5/-

Less 20 per cent. trade discount.

Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices ex Stock,

	Pipe.	Bends, stock angles.	Branches. stock angles.
	s. d.	s. d.	s. d.
2in. per yd. in 6fts. ..	3 5	2 5	2 11
2½in. " ..	3 10	2 8	3 8
3in. " ..	4 2	2 11	4 4
3½in. " ..	4 7	3 8	5 0
4in. " ..	5 1	4 0	5 10

L.C.C. COATED DRAIN PIPES.—London Prices, ex Stock

	Pipe.	Bends, stock angle,	Branches, stock angles.
	s. d.	s. d.	s. d.
3in. per yd. in 9ft. lengths	4 9	5 4	8 9
cwt. qr. lbs.			
4in. .. 1 1 20 ..	6 0	6 3	11 0
5in. " 1 2 22 ..	8 4	11 0	16 11
6in. " 2 0 6 ..	10 0	12 10	21 3

Gaskin for jointing 45/- per cwt.

	Per ton. £ s. d.		London £ s. d.
IRON—			
Common Bars	13 15 0	..	14 15 0
Staffordshire Crown Bars—			
Good merchant quality. ...	15 10 0	to	17 0 0
Staffordshire Marked Bars ..	18 0 0	..	19 0 0
Mild Steel Bars.	13 10 0	..	14 10 0
Steel Bars, Ferro-Concrete quality, basic price	15 0 0	..	16 0 0
Hoop iron, basic prices	15 0 0	..	16 0 0
" Galvanised	25 0 0	..	27 0 0

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS—(*Cont.*)

IRON—	Per ton in London. £ s. d.	£ s. d.
Soft Steel Sheets, Black—		
Ordinary sizes, to 20 g. ..	17 5 0 ..	18 5 0
" " 24 g. ..	18 5 0 ..	19 5 0
" " 26 g. ..	19 5 0 ..	20 5 0
Sheets, Flat, Best Soft Steel, C. R. and C.A. quality—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	18 10 0 ..	19 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.....	20 10 0 ..	21 10 0
No. 1 quality £4 per ton extra.		
Flat and Galvanised Corrugated Sheets—		
Ordinary sizes, 6 ft. to 9 ft. to 20 g.	20 0 0 ..	22 0 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.. .	20 10 0 ..	24 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	22 10 0 ..	24 10 0
Sheets, Galvanised, Flat, Best quality—		
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	21 0 0 ..	24 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	22 0 0 ..	21 10 0
Best Soft Steel Sheets, 26 g.	23 10 0 ..	24 10 0
Cut Nails, 3 in. to 6 in.	19 10 0 ..	21 10 0
(Under 3 in. usual trade extras.)		

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	1 1
Strong sheet	"	1 3
Thin	"	1 4
Copper nails	"	1 3
Copper wire	"	1 3

PLUMBERS' BRASS WORK.

Delivered in London.
Stamped by Met. Water Board.

CRUTCH HEAD SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.

½ in. ¾ in.
32/- 47/- per doz.

CHROMIUM PLATED TOILET SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.

½ in. ¾ in.
42/- 61/6 per doz.

SCREW DOWN STOP COCKS FOR IRON.

¾ in.	1 in.	1¼ in.	1½ in.	2 in.	
27/6	42/6	75/-	181/-	264/-	409/- per doz.

SCREW DOWN STOP COCKS WITH TWO UNIONS FOR LEAD.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.	
46/6	68/6	106/-	205/-	307/-	590/-	per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.	
7/6	10/6	16/-	29/-	39/-	56/-	per doz.

HEAVY CROYDON BALL VALVES.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	
36/-	59/6	96/-	205/-	278/-	per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.	
10/-	12/-	18/6	32/-	44/-	48/-	per doz.

BRASS FERRULES OR SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.	
10/-	12/-	22/6	31/-	45/6	per doz.

DRAWN LEAD TRAPS WITH BRASS CLEANING SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	
8 lb. Lead P...	22/6	30/-	42/-	68/- per doz.
8 lb. Lead S...	25/6	32/6	49/-	83/- per doz.

SOLDER.—Plumbers', 1/2; Tinmen's, 1/4; Blowpipe, 1/7 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in pipes	per gallon	0 2 7
" " " in barrels	"	0 2 9
" " " in drums	"	0 2 11
Boiled " " in barrels	"	0 3 0
" " " in drums	"	0 3 2
Turpentine, in barrels	"	0 3 2
" in drums (10 gals.) ..	"	0 3 4
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks.)		49 0 0

Extra for 1-cwt. kegs over 5-cwt. casks is 2/9 cwt.

GENUINE WHITE LEAD PAINT.

"Father Thames," "Nine Elms," "Park," "Supremus," "St Pauls," "Morganswyte," "Polacco," "J"

Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots	£ s. d.
per ton delivered	68 0 0
Red Lead, Dry (packages extra).. per ton	38 0 0
Best Linseed Oil Putty ..... per cwt.	0 14 9
Size. XD quality ..... fkn.	0 3 6

VARNISHES, &c.

	Per gallon.
Oak Varnish ..... Outside	0 14 0
Fine Do. ..... "	0 16 0
Fine Copal ..... "	0 18 0
Pale Copal ..... "	1 0 0
Pale Opal Carriage ..... "	1 4 0
Best do. ..... "	1 12 0
Floor Varnish ..... Inside	0 18 0
Fine Pale Paper ..... "	0 18 0
Fine Copal Cabinet ..... "	1 2 0
Fine Copal Flatting ..... "	1 0 0
Hard Drying Oak ..... "	0 18 0
Fine Hard Drying Oak ..... "	0 19 6
Fine Copal Varnish ..... "	1 0 6
Pale do. ..... "	1 12 0
Best do. ..... "	1 2 6
Best Japan Gold Size	1 12 6
Best Black Japan	0 10 0
Oak and Mahogany Stain (water)	0 12 0
Brunswick Black	0 7 6
Berlin Black	0 14 0
Knotting (patent)	0 15 0
French and Brush Polish	0 12 0
Liquid Dryers in Terebene	0 9 0
Cuirass Black Enamel	0 7 0

THE SCOTTISH BUILDER

NEW BUILDINGS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

ABERDEEN.—HOUSES.—The T.C. is to proceed with 68 houses at Kaimhill, at £34,719. Plans are by Mr. A. B. Gardner, City Architect, 11, Broad-street.

AIRDRIE.—OFFICES.—The Corporation is to erect new municipal buildings and council offices at Clark-street, from plans by Messrs. Arthur and Son, architects and quantity surveyors, Graham-street.

ANGUS.—RECONSTRUCTION.—The C.C. has given its approval to reconstructions being carried out at the Anniston Brickworks, near Arbroath, for the Anniston Brickworks Co., Ltd.

DUNDEE.—HOUSES.—Plans are to be prepared by Mr. David MacLay, City Architect, for 235 houses. The quantity surveyor is Mr. James Robertson, The City-square.

DUNFERMLINE.—BUILDING.—The Dean of Guild Court has granted permission to the T.C. for erection of a hostel at Muir-road, Townhill, at £1,600. The Court also passed plans presented by the T.C. for a new police and other buildings at the junction of Queensferry-road and Admiralty-road, Rosyth, at £7,000.

EDINBURGH.—HALLS.—Plans are in hand for new suite of halls and other offices at Spylaw public park, Colinton and Spylaw-street, the architect being Mr. Alexander Lorne Campbell, Castle-street, Queen-street Corner.

EDINBURGH.—SCHOOL, ETC.—The Dean of Guild Court has passed plans for the Corporation to erect a school at the Gogarburn Certified Institution, and a garage in Broughton-road.

GLASGOW.—HOSTEL.—Plans have been submitted by the Housing Committee of the Corporation to the Department of Health for Scotland for a hostel containing two-room flats for the purpose of rehousing single women. The site proposed is to be situated on the south side of the Clyde overlooking the river not far from the Stockwell Bridge.

GLASGOW.—SCHOOL.—A new R.C. school, to cost £80,000, will be erected in Garngad-road, Provanmill. The plans were approved by the Dean of Guild Court. The architects are Messrs. Miller and Black, 132, West Regent-street.

GLASGOW.—WATER SUPPLY.—The Corporation has appointed Mr. Harry Prescott Hill, civil engineer, of Manchester, and Mr. James B. Brodie, civil engineer, 141, West George-street, Glasgow, to carry out a new water scheme estimated at £660,000, which will include a new 36-in. water main for the reservoirs at Milngavie, Dumbartonshire.

HAMILTON.—SCHOOL.—The Schools and Schemes Committee of the Lanarkshire E.C. have approved of proposals for the reconstruction and extension of the present primary department of Hamilton Academy, so as to provide accommodation for 550 pupils together with a gymnasium attached at £17,000; and also for the modernisation of secondary school building.

INVERNESS.—OFFICES.—The Dean of Guild Court has granted permission to Messrs. Harrison and Reeve, Correction Wynd, Aberdeen, to construct buildings in Falcon-square to be used as offices, shops and warehouse.

KIRKCALDY.—HALL.—The T.C. are considering a new hall scheme. It is proposed to erect a hall for the Park-road district at a cost of about £8,000.

LANARKSHIRE.—BUILDING.—A paper mill is to be erected at Duchess-road,

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from April 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A¹	A²	A³	B	B¹
Craftsmen.....	1/8	1/7½	1/7	1/6½	1/6	1/5½
Labourers	1/3	1/2¾	1/2¼	1/2	1/1½	1/1¼

Aberdeen .....A	East Fife (embraced by a line from Largo to Kingsbarns and eastward to the Coast). .B	Hamilton .....A	Perthshire..... A
Ayrshire .....A	East Lothian .....A	Inverness .....*	Peterhead .....A
Banff .....B	Edinburgh .....A	Inverurie .....A¹	Renfrewshire .....A
Berwickshire .....A²	Fifeshire (with the exceptions of towns in East Fife which are under Grade B) ..A	Kincardineshire ....A²	Rothesay .....A
Bridge of Allan .....A	Forfarshire .....A	Kinross-shire .....A	Roxburghshire .....A¹
Broughty Ferry .....A	Glasgow .....A	Lanarkshire .....A	St. Andrews .....A
Clackmannanshire ....A	Greenock .....A	Mid-Lothian .....A	Selkirkshire .....A¹
Doune .....A		Monifieth .....A	Stewartry .....A¹
Dunblane .....A		Moray and Nairn ....B	Stirlingshire .....A
Dumbartonshire .....A		Newport .....A	Stornoway .....A
Dumfriesshire .....A¹		Peeblesshire .....A²	Tayport .....A
Dundee .....A		Perth .....A	West Lothain.....A
Dunoon .....A			

* This town has its own rates: Masons, 1/6; Carpenters, 1/6; Slaters, 1/6; Plumbers, 1/6½; Plasterers, 1/7 but 1/8 is paid owing to the scarcity at present; Painters, 1/6; and Labourers, 1/1½.

The information given in this table is copyright. Rates of wages in England and Wales are given on page 560.

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY AND SELECTED GLAZING QUALITY.

per ft. super.		per ft. super.	
18 oz. O.Q..	2½d.	32 oz. O.Q..	5½d.
18 .. S.Q..	2¾d.	32 ,, S.Q..	6¼d.
24 ,, O.Q..	3¼d.	Obscured Sheet, 18 oz.	3d.
24 ,, S.Q..	3¾d.	" " 24 ,,	4¼d.
26 ,, O.Q..	3¾d.	Fluted .....21 oz.	9d.
26 ,, S.Q..	4¼d.	Em'lld 18 oz.,5¼d.,24oz. 6¾d.	

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

	Per ft. s. d.
Rolled plate, ¼ in.	5½d.
Rough cast double rolled, ¼ in.	6¼d.
Rough cast double rolled, ⅛ in.	6¾d.
Figured rolled, etc., white	6½d.
Figured rolled, etc., tinted.	9¾d.
Rolled Sheet	6d.
White rolled cathedral	6d.
Tinted rolled cathedral	8¼d.

Rolled plate is the same price as rough cast double rolled.

	Per ft. s. d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ¼ in. thick	0 10½
Wire Rolled, ¼ in. thick	0 9½

	s. d.
Wired Cast, ¼ in. thick..	0 9¼
"Calorex" Sheet, 21 oz.	2 6
" " 32 oz.	4 0
" Cast, ¼ in. thick	0 10
" " ⅛ in. thick	1 0
" " ½ in. thick	1 2

"VITA" GLASS.

Clearsheet—not exceeding 1 foot	1 0
" " 2 feet	1 3
" over 2 feet	1 9
Polished plate not exceeding 1 foot	1 6
" " 2 feet	3 0
Cathedral—not exceeding 1 foot	1 0
" larger sizes.	1 6
Horticultural Sheet and Cathedral "Vita" Glass. Sizes up to 24 inches by 18 inches or not exceeding 3 feet.	1 0
3/16 in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide	2 6

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	23 5 0
Pipe in coils	22 15 0
Soil pipe	28 5 0
Compo pipe	30 0 0

NOTE.—Country delivery, 20/- per ton extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills ..... per ton } £13 0 0

Rutherglen, by the Scottish Co-operative Wholesale Society, Ltd., Glasgow. Plans have been passed by the Public Health Committee of C.C. The Committee also passed plans for 14 houses at Garrowhill Garden estate, Baillieston, for Henry Boot (Garden Estates), Ltd.; addition to bakery at Shotts Kirk-road, Shotts, for David Bell, Shotts; hall at Kittoch-street, East Kilbride, for East Kilbride Y.M.C.A.; and five cottages and four buildings at Lanrig, near Chryston, for the Department of Agriculture for Scotland.

PAISLEY.—GARAGE.—Plans are in hand for new public garage, with workshops, showrooms and offices, etc., St. James-street, the architect being Mr. Donald Murray, 9, Gilmour-street.

PERTH.—EXTENSIONS.—The directors of the Perth Royal Infirmary have resolved to build a new extension to the out-patients' department.

PETERHEAD. — RECONSTRUCTION. — The Committee of the Cottage Hospital have decided to carry through a scheme of reconstruction at the hospital. The architect is Mr. J. A. W. Grant, F.R.I.A.S., 25, Rutland-square, Edinburgh.

ST. ANDREWS.—EXTENSIONS.—Plans are to be prepared for a £10,000 extension and reconstruction scheme on the Madras College, by Mr. G. Sandilands, architect, St. Catherine-street, Cupar.

SCONE.—DEPOT.—The new barracks of the Black Watch are to be at Scone. The War Office, it is announced, have secured a site for the new depot at Spoutwells, and it is hoped that the scheme, likely to involve about £100,000, will be started within the next few months.

TENDERS ACCEPTED

Aberdeen.—Dust and cinder hoppers — *Cruickshank & Seward (FF.). Reinforced concrete engineers, Trussted Concrete Steel Co., Ltd., Westminster, S.W.1. :—*Clark & Chapman, Aberdeen.

Aberdeen.—Eighty-six houses at Tullos, for T.C.:—Brick—*S. B. Russell & Son, £15,091; joiner—*D. Macandrew & Co., Ltd., £11,863; slater—*C. McDonald & Sons, Dyce, £3,828; plumber—*W. Burnett, £5,398; lath and plaster—*J. Goodfellow & Co., Ltd., £4,540; painter—*W. Smith, £1,571; grates—*W. Seatter, £1,134 (rest of Aberdeen).

Aberdeen.—Storage accommodation, etc., at Manfield-pl., for Corporation. Thomas Henderson, architect and quantity surveyor:—Excavation, brick and mason—*J. Duavid & Son, Aberdeen.

Dumbarton.—Business premises at High-st., and King-st. Whyte & Nicol, architects, 121, Bath-st., Blythswood, Glasgow. Andrew Stewart, Pringle & Lockerbie, quantity surveyors, Blythswood-chambs., West George-st., Glasgow:—Excavation, brick and mason—*R. Corbett & Son, Ltd., Bluevale; steel structural—*P. & R. Fleming, Ltd., Glasgow; joinery, carpentry and ironmongery—*Dougall & Co., Ltd., Dumbarton; asphalte—*Limmer & Trinidad Lake Asphalting Co., Ltd., Glasgow; plumber and sanitary engineering—*Cross & McIllwhain, Glasgow; plaster and lathing, etc.—*T. Thursby & Sons, Ltd., Clydebank.

Dundee.—Painting, etc., at Morgan-st., for Corporation. David MacLay, City Architect. James Robinson, quantity surveyor, City-sq.:—*J. Stirling, Junr., Dundee, £566.

Edinburgh.—Extensions to the Saint Andrew Biscuit works, Robertson-av., for McVitie & Price, Ltd. Wellard, Sons & Ellingham, architects and engineers, Market-pl., Rugby:—Excavation, brick and mason—*W. A. MacLeod & Co., Ltd., Edinburgh; steel construction—*Redpath, Brown & Company, Ltd., Glasgow; lifts and complete installations and allied works—*J. Bennie (1934), Ltd., Glasgow.

Glasgow.—Warehouse, etc., in Finnieston-st. Thomson, Sandilands & MacLeod, architects, West George-st., Blythswood-sq.:—Excavation, brick and mason—*O. Gray & Sons, Ltd., Glasgow.

Greenock.—Reconstruction and extensions at Hamilton-st., and Sugarhouse-la., for Multiple Stores. J. Munro & Son, architects and quantity surveyors, 307, West George-st., Blythswood-sq., Glasgow:—Demolition, brick and building, etc.—*Bovis, Ltd., Marylebone, London.

Hawick.—Eight single-apartment houses and two two-apartment houses at 10, Bright-st., for T.C.:—Joiner—*R. Brydon & Sons, £463; plumber—*J. Miller & Sons, £544; builders—*J. & R. Elliot, £398; plasterer—*J. & R. Elliot, £258.

Paisley—Warehouse premises. Cook & Hamilton, architects, 7, Gilmour-st.:—Excavation, brick and mason—*J. Crawford, Potterhill; joinery, carpentry and ironmongery—*Galbraith's Works Department, Ltd., Paisley; slater and rough casting—*A. Stevenson & Son, Paisley; marble, tile, terrazzo, etc.—*Toffolo, Jackson & Co., Glasgow; plaster and lathing—*D. S. Lang, Paisley; plumber and sanitary engineering—*Galbraith's Stores, Ltd. Paisley.

Plains.—46 houses. William Brown, Lanarkshire County Housing Architect, Clydesdale-st., Hamilton:—Excavation, brick and building—*T. P. Jamieson, Baillieston, £9,450; joinery, carpentry and ironmongery—*J. Struthers, Bellshill, £6,050; slater and roughcasting—*M. Thom & Co., Ltd., Airdrie, £1,964; plaster and lathing—*W. Bannatyne & Co., Ltd., Hamilton, £1,109; plumber and sanitary engineering—*G. Ferguson & Sons, Ltd., Airdrie, £2,233; painting, glazing and allied works—*G. Law, Bellshill, £591; electrical fittings and installation—*D. Henderson, Glasgow, £320; iron railings, gates and allied works—*R. Marchbanks & Son, Larkhall, £185.

Rutherglen.—132 houses on the Gallowgate housing site. Mr. Hugh Inglis, architect, The Royal Burgh-chambs., Main-st. John Baxter, Dunn & Gray, quantity surveyors, 243, St. Vincent-st., Blythswood, Glasgow:—Excavation, brick and building—*J. Ritchie, Cambuslang; plumber and sanitary engineering—*J. Paterson & Co., (Plumbers), Ltd., Glasgow; joinery, carpentry and ironmongery—*S. Brownlie & Co., Ltd., Cambuslang; steel windows and casements—*Crittall Manufacturing Co., Ltd., Glasgow; slater work and roughcasting—*A. C. Whyte & Co., Ltd., Pollockshaws; glazing and allied works—*G. G. Kirk, Ltd., Glasgow; plaster and lathing—*W. Walker & Son (Glasgow), Ltd., Glasgow; iron railings and gates—*J. Robertson & Co. (Glasgow), Ltd., Glasgow; electrical fittings and installation—*Ferguson & Fleming, Ltd., Rutherglen; painter and allied works—*T. Hastie & Son, Rutherglen and Bridgeton.

British Standard Specification.

B.S.S. No. 798, 1938, for Galvanised Corrugated Steel Sheets, was issued recently by the British Standards Institution. It is primarily intended for the use of the building trade in this country. It is reported that the specification establishes a new and higher standard of quality than the ordinary commercial brand hitherto in general use and will ensure good appearance and prolonged life.

The specification is not a standard of dimensions but a standard of quality applicable to sheets of any size and for the following patterns: 3-in. corrugations, 5-in. corrugations and the British tile. Among its requirements is a guaranteed minimum coating of spelter of 1.75 oz. per sq. ft. of sheet (including both sides). The thickness of the black sheet before galvanising will generally be 24 B.G., but heavier gauges can be obtained if desired.

The new sheets will be marketed under the trade name 175 (one-seven-five) and will be manufactured by all sheetmakers in the country.

Architects and builders may specify this quality with every confidence.

DON'T TENDER UNSUCCESSFULLY

SECURE CONTRACTS WITH

THE STEEL SCAFFOLDING CO., LTD.

Imperial House, 80, Regent St., London, W.1

Telephone: Regent 1157

TENDERS

The Editor welcomes authentic information or this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

* Denotes *accepted.*
† Denotes *Provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Alfreton.—44 houses at Birchwood-ln., Somercotes, and street works, for U.D.C. R. F. Ward, S.:—*Arthur Sheldon & Son, Wentworth-st., Ilkeston Junction, Ilkeston, £17,627.

Alton.—Cottages, Crows-la., Farringdon, for R.D.C. A. E. Bennett, building surveyor, Lenten-st.:—*Knight Bros., Astoria House, Gloucester-pl., Brighton, 1, £2,129.

Ashton-under-Lyne.—32 semi-detached houses in Hall-rd., Smallshaw-ln., Warwick-rd., and Pollitt-av., for T.C. W. Wilson, B.S.:—Builders—*James Ridyard & Sons, Ltd. Plastering—*A. Jeffreys, Dukinfield. Slating and tiling—*W. Hunt. (Rest of Ashton-under-Lyne.)

Barnard Castle.—Convenience at Evenwood, for R.D.C.—*A. Byrdon, Cockfield, £400.

Belfast.—Proposed Whitla hall, to seat 1,500 persons, stage, etc., for Senate of University of Queen's College. Mr. John McGeagh (A.), 23, Ocean-bldgs., in collaboration with Edward Maufe (F.), 4, Pickering-pl., St. James's-st., S.W.1. Wells, Cocking & Meston, consulting engineers, 10, New-sq., Lincoln's Inn, W.C.2. W. H. Stephens & Sons, quantity surveyors, 13, Donegall-sq.:—*F. B. McKee & Co., Shore-rd., Belfast. (Cost, £36,000.)

Birmingham.—Shops and flats, including a large store, at Hawthorne-rd., Kingstanding. Marshall & Tweedy (FF.), 96, New Cavendish-st., London, W.1:—*George Moss (London), Ltd., Dorchester-rd., Northolt Park.

Blackpool.—Rebuilding "Duke of Cambridge" hotel, Dickson-rd., for D. Thwaites & Co., Ltd., Eanam Brewery. Halstead Best (F.), 20, Clifton-st.:—*Atherton Bros. (Blackpool), Ltd., 70, Peter-st., Blackpool.

Brentford.—Garage on the Great Western Railway estate, Great West-rd. E. P. Platt, P.A.S.I., L.R.I.B.A., 161, Peppard-rd., Caversham, Reading:—

W. J. Dickens, Ealing, W.5	£3,030
F. D. Hidden & Co., Ltd., Brentford	2,834
*E. Plaistowe & Sons, Ltd., South-rd., Southall	2,830

(Subject to amendments.)

Bristol.—Branch premises, Castle-st., for Boot's Pure Drug Co., Ltd. Percy J. Bartlett (F.), chief architect, Station-st., Nottingham:—*C. A. Hayes & Sons, Ltd., St. Thomas-st., Bristol.

Canterbury.—Motor showrooms and workshops, Lower Bridge-st., for Invicta Motor Engineering Works, Ltd. Dore & Anderson, architects, 27, Watling-st.: — *C. J. Hawkes, Minnis-rd., Birchington.

Castleford.—Out-patients' department and additions to nurses' home, for Castleford, Normanton and District Hospital Board. R. A. Easdale & Son, architects, County-chambs.:—*C. Brunt, "Sunnyside," Town Ville, Castleford.

Chadderton.—Extensions at Grammar School, for Lancashire E.C. Stephen Wilkinson (F.), County Architect, Preston:—Builders—*Whiteman & Ashton, Middleton. Mason—*S. & J. Whitehead, Oldham. Carpenter and joiner—*Taylor & Davies, Middleton. Slaters—*Exors. of Isaac Pogson, Shaw. Plumbing and glazing—*W. B. Stott & Co., Ltd., Oldham. Plastering—*James Robinson, Middleton. Painting—*F. & J. Pilling Bros., Ltd., Manchester. (Cost, £10,140.)

Chapel-en-le-Frith.—Branch stores, Manchester-rd., for New Mills Co-operative Society, Ltd., Spring Bank, New Mills, near Stockport. Architects' Department, Co-operative Wholesale Society, Ltd., Balloon-st., Manchester:—*Building Department, Vere-st., Salford.

Cheltenham.—4 houses at Elmstone Hardwicke, also roads, etc., for R.D.C. E. H. Rosser, E. and S., 14, Imperial-sq.:—*A. Bowd, 72, Waterloo-st., Cheltenham.

Cheltenham.—Public-house, to be called the "Bat and Ball," Churchdown, for Flower & Sons, Ltd., Stratford-on-Avon. L. W. Barnard & Partners, architects, 13, Imperial-sq.:—*A. C. Billings & Sons, Ltd., Winchcombe-st., Cheltenham.

Chorley.—92 houses on Brown-st. site, for T.C. B.S.:—*J. B. C. Hardman, Ltd., Walton-le-Dale, Preston, £35,609.

Clun.—Two 4-bedroomed houses at Hope Common for R.D.C.:—*—, Edwards, Minsterley, £863 10s.

Coalville.—Factory, for Cascelloid, Ltd., Britannia Works, Abbey-ln., Leicester. Brand, Edwards & Branson, architects, 33, Bowling Green-st., Leicester :—*W. Moss & Son, Coalville, Leicester. (Cost, £10,000.)

Conisbrough.—Alterations, improvements and extensions to sewage disposal works, Burcroft, for U.D.C. H. Thirlwall, E. and S. :—

R. Whitehead, Mansfield	£17,000	0	0
P. P. Taylor (Doncaster), Ltd., Doncaster	16,375	0	0
Wellerman Bros., Ltd., Sheffield	16,086	14	0
Geo. H. Graham, Huddersfield...	15,742	0	0
Wm. Birch & Sons, Ltd. York	15,604	0	0
J. L. Totterdell & Co., Sprotboro', nr. Doncaster	15,594	18	5
*Beeden, Ltd., Thrybergh, nr. Rotherham	15,550	19	5

(Subject to approval of M.H.)

Coventry.—Erection of "The Wallace" hotel, corner of Norman-pl.-rd., and Keresley-rd., for Mitchells & Butlers, Ltd., Cape Hill Brewery, Smethwick. W. S. Hattrell & Partners, architects, 1, Queen's-rd. :—*W. H. Jones & Son, Ltd., Lockhurst-la., Coventry.

Coventry.—Three-storey block containing 4 shops with offices over, junction of Broadgate and Trinity Churchyard, for Prudential Assurance Co., Ltd., Holborn Bars, E.C.1 :—*J. G. Gray, Broadst., Coventry.

Dartford.—Hall, for Congregational Church, Main-rd., Hartley. H. H. Meeson, architect, Dartford :—*M. Lawrence, Main-rd., Longfield, Dartford, £390.

Daventry.—Four houses at Jubilee-rd., for T.C. :—*T. & W. Atkins, Daventry.

Deptford.—Steel shelving for respirator stores, for B.C. :—

Roneo, Ltd., W.C.1	£280	16	10
Libraco, Ltd., S.E.7	260	0	0
Rubery, Owen & Co., Ltd., Darlaston	232	3	6
*Chatwood Safe Co., Ltd., Shrewsbury	189	0	0

Dewsbury. — Additions to "The Woodlands," Leeds-rd., for Dewsbury Nursing Association. Firth, Son & Blackburn, architects and surveyors, 22, Wellington-rd. :—builders, *S. Scott & Son; joiners, *F. Fligg & Son; plumbers, *F. Newsome, Ltd.; heating, *Albert Scott; plasterers, *A. & F. Hodgson; decorator, *Joseph Shepley; rock asphalte, *Limmer & Trinidad Lake Asphalte Co., Ltd., Rothwell Haigh, Rothwell. (Rest of Dewsbury.)

Doncaster.—Boat-house, landing stage and public conveniences at Sandall Brickworks, for T.C. F. O. Kirby, B.E., 2, Priory-pl. :—*H. Westmoreland, 6, Lowe-rd., Balby, Doncaster, £1,916 17s. 9d.

Dore and Bredwardine.—Houses at Shenmore, Madley, for R.D.C. Charles E. T. Booth, A.I.A.A., registered architect, Kyrle-st., Hereford :—

S. W. Preece & Son	£1,018	0	0
W. J. Jones	796	17	0
A. J. Clifton	796	15	6
T. W. Pugh	792	5	0
J. E. Lea	772	10	0
C. Bowyer	729	0	0
*J. Hiles, Hinton-rd.	720	0	0

(All of Hereford.)

Drogheda.—Houses, for Corporation :—*Patk. F. Hoey, Chord-terr., Drogheda, £11,454 (34 houses at Platten-rd., Drogheda); *Murphy Bros. (Builders), Ltd., Old Abbey, Drogheda, £10,800 (32 houses on Platten-rd. site).

Droxford.—Houses, for R.D.C. :—*R. A. Hamper.

Dublin.—Works for Corporation :—182 houses at Ellenfield, *Joseph Rooney, £98,065; widening Blackhorse bridge, *J. T. Moran & Co., £3,828; reconstruction of Ballybough bridge, *S. Phillips, Drumcondra, £3,928; lift, lift shaft and provision of strong room and fireproof stores in Exchange Buildings, *F. A. McGetrick, £1,440.

Dudley.—Licensed premises, Selbourne-rd., for Poole Bros, brewers. Oakham-rd. Coslett & Hughes, architects, Fountain-arcade-chambs. :—*A. & B. Oakley, Lower Gornall, Dudley.

Ellesmere Port.—New Woodlands hotel at Woodlands-rd., for Bent's Brewery Co., Ltd., 30, Johnson-st., Liverpool. A. E. Shennan (F.), North House, 17, North John-st., Liverpool :—*J. Lucas & Son (Builders), Ltd., Eccleston-st., Prescot. (Estimated cost £18,000.)

Folkestone.—92 houses at Cheriton, for T.C. :—*J. Cartwright, Ltd., Clapham Park, S.W.4, £34,454 7s.

Frome.—Demolishing of cottages at Marston-rd., for U.D.C. :—*F. J. Hodder & Sons, Frome, £127 10s. 8d.

Galway.—2 new canal bridges to replace the existing bridges at the Claddagh and University-rd., Galway, for C.C. :—*Sir William Arroll & Co., £8,560 10s.

Haltwhistle.—Electrical installation in Council offices, for R.D.C. :—*A. Phillips, Greencroft, Haltwhistle.

Hollingwood.—Senior girls' school, for Derbyshire E.C. J. Harrison (A.), County Architect, St. Mary's-gate, Derby :—*C. H. Hill & Son, Victoria-st., Mansfield.

Ireland.—The following contracts have been placed by the Commissioners of Public Works :—Bridgend, Co. Donegal, customs station and official residences, Crawford & Eakin, Buncrana, Co. Donegal; Ballyhuskey National School, Co. Cork, J. Hanley, Ardagh Point, Bere Island, Co. Cork; Ballycullane Garda Station, Co. Wexford, Ryan Bros., Irishtown, New Ross, Co. Wexford; Botanic-garden, Dublin, painting of premises, railings, etc., Dockrell, Sons & Co., Ltd., Dublin; Coore National School, Co. Clare, improvements, M. Lineen, Kilmihill, Co. Clare; Collins Barracks, Cork, reconstruction works at east wing, P. J. Hegarty & Sons, Cork; Clones Customs Station, Co. Monaghan, customs station, J. Kelly, Co. Monaghan; Cloone National School, Co. Leitrim, improvements and repairs, J. Kilkenny, Tooma, Cloone P.O., Co. Leitrim; Coleraine House Stores, Dublin, 144 office tables, Wm. Walshe & Co., Ltd., Boyne Mills, An Uaimh, Co. Meath; Custom Barracks, Athlone, Co. Westmeath, ordnance depot, Higgins & Sons, Salthill Co., Galway; Dundalk Customs House, Co. Louth, garage, E. McQuillan, Dundalk; Hollyfort Garda Station, Co. Wexford, T. Brennan, Main-st., Carnew; Kildare Artillery Barracks, dining hall, baths and sanitary accommodation, Blocks 9a and 4, S. Phillips, Drumcondra; Letterfad National School, Co. Donegal, improvements, J. Hegarty, Drimlatafin, Inver; McKee Barracks, Dublin, improved sanitary and bathing accommodation, Liam Grant, Dublin; Newmarket National School, Co. Cork, repairs and improvements, D. P. O'Flynn, Newmarket, Co. Cork; St. Columcille's National School, Co. Longford, improvements, T. Reynolds, Cornadrung, Co. Longford; State Group of Buildings, Kildare-st., Dublin, external painting, J. Warren & Son, Dublin; Lisacul National School, Co. Roscommon, improvements, P. Birmingham, "Kilclooney," Milltown, Tuam; Mullagh National School, Co. Galway, Bertie Keane, Ballyhogan, Killrickle, Loughrea; St. Enda's, Rathfarnham, Dublin, general repairs to buildings and walls, J. Hollywood, Rathmines.

Kilkenny.—44 houses, Thomastown, for County Board of Health :—

H. & A. Hamilton, Waterford ...	£18,996	0	
E. Fitzpatrick, Carrick-on-Suir ...	17,116	0	
J. Rossiter, New Ross ...	16,037	0	
*J. & P. Conlon, Graiguecullen ...	14,418	0	
30 houses, Ballyragget—			
Leahy's, Thurles ...	£11,186	0	
Duggan Bros., Templemore ...	10,295	0	
J. & P. Conlon, Graiguecullen ...	9,875	0	
*F. Dwan, Thurles ...	9,710	8	

Knighton.—Erection of Knighton senior school, for Radnorshire E.C. J. A. Paterson, County Architect, Llandrindrod Wells :—†J. L. Griffiths, Canberra, Llandrindrod Wells, £22,500.

Lewisham.—Construction of necessary works in culverting and straightening the Pool River through Council's recreation ground, Southend-ln., Lower Sydenham, for B.C. Borough Engineer :—

W. H. Wheeler & Co., Ltd. ...	£6,900	0	
Roads & Public Works, Ltd. ...	4,790	0	
Mears Bros. (Contractors), Ltd. ...	4,625	0	
Henry Woodham & Sons, Ltd. ...	4,499	0	
Concrete Piling, Ltd. ...	4,343	0	
Kenneth Bell, Ltd. ...	4,320	15	
Wates, Ltd. ...	4,300	0	
*Campbell & McGill ...	4,095	0	

Liverpool.—Motor service station showrooms and offices, Myrtle-st., for Cheshire Brothers, Ltd., 58, Bold-st. R. S. Nickson, architect, 1, Brunswick-st., Castle-st. :—*Costain & Sons, Barlows-la., Fazakerley, Liverpool, 9.

Having secured the Contract—

What about the Steel Scaffolding?

TUBULAR

—S & C—

SCAFFOLDING

For the lowest Prices apply to the Oldest Firm in The Scaffolding Trade.

STEPHENS & CARTER LTD.

The British Steel Scaffolding Co.

Paddington Green, London, W.2.

Telephone No. PADDINGTON 7661 (6 lines).

Llanstephan.—Memorial hall. A. L. Crabb (L.), Bank-chambs., Lammas-st., Carmarthen :—*Rees Davies, Catherine-st., Carmarthen. (Cost, £2,500.)

London.—Trussed Concrete Steel Co., Ltd., Horseferry House, Horseferry-rd., Westminster, S.W.1, secured contracts for ceilings in Harcourt school, Folkestone, and infants' school, Sleaford (County Architect, C. B. Metcalfe (F.), gen. cont. *W. H. Maxey & Son, Sleaford); for floors in sub-station, Ilford, for County of London Electric Supply Co.; and partitions in new farm buildings, Wakefield, for West Riding mental hospital; and appointed reinforced concrete engineers for Newbridge secondary school, Monmouth (Colin L. Jones (L.), County Architect, cont. *Rees Edwards, Tredegar); Gosden House, Bramley (Wm. G. Newton & Partners, architects, cont. *Crosby & Co., Ltd., Farnham); reservoirs and sewage disposal, Magherafelt, for R.D.C. (J. E. Croasdaile, consulting engineer, Belfast, cont. *Geo. C. Eakin, Magherafelt); school clinic at Great Barr, Birmingham (S. N. Cooke (F.), cont. *Percy W. Cox, Ltd., Handsworth).

¶London (Air Ministry).—Contracts placed for the week ended September 10 :—South Cerney, Hullavington and Brize Norton—artificers' works, A. C. Billings & Sons, Ltd., Cheltenham. Jurby, I.O.M.—various buildings and external services, J. Gerrard & Sons, Ltd., Swinton, Manchester. Felixstowe—district heating, Selborne Domestic Engineering Co., Newcastle-on-Tyne, 2. Cosford—heating of sheds, Matthew Hall & Co., Ltd., London, N.W.1. Cosford—district heating, Brightside Foundry & Engineering Co., Ltd., Birmingham, 3. Yatesbury—district heating, G. N. Haden & Sons, Ltd., London, W.C.2. Filton—builders' work, Downing, Rudman & Bent, Ltd., Chippenham. Sutton Bridge—builders' work, J. Chapman & Sons, Ltd., Leicester. Silloth—landing ground, Bradshaw Bros. (Contractors), Ltd., Leicester.

London (G.W.R.).—Contracts placed :—Reconstruction and widening of Bilhay-ln. bridge, Swan Village, *John Wilson & Sons, Birmingham; widening the line through Greenford for a length of about 1¼ miles in connection with the North Acton to Ruislip electric lines scheme, *George Wimpey & Co., Ltd., London, W.6; demolition work, earthworks, drainage and ballasting for new sidings and lines near Pembrey and Burry Port station, *H. Smith, Newport, Mon.; steel girders and other iron and steelwork of British manufacture, *John Lysaght, Ltd., Bristol.

¶London (H.M.O.W.).—Tenders accepted for the week ended September 8 :—Ministry of Agriculture Veterinary Laboratory, Addlestone—provision of roads and drainage—Henry Taylor (Epsom), Ltd., 26, Waterloo-rd., Epsom. Hounslow Army Vocational Training Centre—steel trusses, concrete foundation and floor of workshop—William Lacey (Hounslow), Ltd., Staines-rd., Hounslow. Chorley Royal Ordnance Factory—A.C. motor starters and controllers—M. & C. Switchgear, Ltd., 36, Victoria-st., Westminster, S.W.1. Brimscombe, Glos., Telephone Exchange—erection—Gardner & Sons (Stroud), Ltd., London-rd., Stroud. Shirts—Wm. Sugden & Sons, Ltd., Water-lane Mills, Cleckheaton. Medical first-aid outfit boxes—Huntley, Bourne & Stevens, Ltd., Tinworks, London-st., Reading. Ruabon Telephone Exchange—erection—W. F. Humphreys, Ltd., Acrefair, Wrexham. Ladder-back chairs—Thomas Glenister, Ltd., Temple Works, High Wycombe, and R. & H. C. Mines, Downley, High Wycombe. Desks—Kingfisher, Ltd., Charles-st., West Bromwich, and Educational Supply Assn., Ltd., Esavian House, 181, High Holborn, W.C.1. Steel armchairs—Cox & Co., Watford Bypass, Watford. Laboratory fittings—Dick & Benzies, 85/91, Forth-st., Pollokshields, Glasgow, S.1. Bracket clocks—F. W. Elliott, Ltd., Union-rd., West Croydon. Portable flight desks—D. M. Davies (Slough), Ltd., Trading Estate, Slough; National Physical Laboratory, Teddington—external and internal painting—Limpus & Son, Ltd., 67, Victoria-rd., Surbiton. G.P.O. South—general works—J. Mowlem & Co., Ltd., 91, Ebury Bridge-rd., S.W.1. Dressing chests (oak)—Waring & Gillow (1932), Ltd., 164, Oxford-st., W.1. Axminster carpets—Carpet Trades, Ltd., Mill-st., Kidderminster. Axminster Hearth Rugs—Carpet Manufacturing Co., Ltd., New-rd., Kidderminster, and J. Templeton & Co. (Services), Ltd., 34/38, Little Britain, E.C. Reading (South) Telephone Exchange—erection—Francis Bros., 11, Armour-rd., Tilehurst, Reading. Chagford (Devon) Telephone Exchange—erection—Charles Stone & Sons, Lydstone, Chagford. Burford (Oxon.) Telephone Repeater Station—erection—F. A. Middleton & Son, Rotorua, Cirencester-rd., Cheltenham. Bridgend R.O.F.—sliding, surfacing and screwcutting precision toolroom lathes—John Lang & Sons, Ltd., Johnstone, nr. Glasgow. Moveable troughs—Finch & Sons, Ltd., Pitt-st., Gloucester. Deal folding tables—Duncan Tucker (Tottenham), (Ltd., Lawrence-rd., South Tottenham, N.15. Castors for moveable troughs—Autoset (Production), Ltd., Stour-st., Birmingham. Rubberised cotton cloth—Greengate & Irwell Rubber Co., Ltd., Greengate Works, Manchester, 3. Manilla ropes—East London Ropeworks, Ltd., 24, Bow-rd., E.3. Desks (drawing, oak)—F. Troy & Co., Ltd., 194, Finchley-rd., N.W.3. Batten racks—E. D. Pearcey, Ltd., 10, Roscoe-st., E.C.1. C.I. table Standards — Dudley & Downell, Ltd., Olive-lane Works, Blackheath, Birmingham. Ankle boots—Adams Bros. (Raunds), Ltd., Raunds, Wellingborough, and Tebbutt & Hall Bros., Ltd., Coleman-st., Raunds. Stoke Bishop (Bristol) Telephone Exchange—extension—W. J. Kew (Contractors), Ltd., Bedminster Down, Bristol, 3. Dressing chests—A. G Farmer & Sons, Ltd., Winterstoke-rd., Bedminster, Bristol, 3. Bookcases—A. G. Farmer & Sons, Ltd., Winterstoke-rd., Bedminster, Bristol, 3. Cylinder

till locks—Yale & Towne Manufacturing Co., Willenhall. Cylinder cupboard locks—Walsall Locks & Cart Gear, Ltd., Neale-st., Walsall. Oak dressing chests—A. G. Farmer & Sons, Ltd., Winterstoke-rd., Bedminster, Bristol, 3. Painted dressing chests—Waring and Gillow (1932), Ltd., 164/182, Oxford-st., London, W.1. Admiralty Training Est., Rosyth—horizontal and vertical milling machine—Midgley & Sutcliffe, Hillidge Works, Hunslet, Leeds, 10. Chorley Royal Ordnance Factory—steam-jacketed Ovens—William Green & Co. (Ecclesfield), Ltd., Norfolk Foundry, Ecclesfield, nr. Sheffield. Ministry of Health Examination Centre, 137-139, Hagley-rd., Birmingham—alterations—J. E. Harper & Son, Ltd., 72/82, Lombard-st., Birmingham, 12. National Physical Laboratory, Teddington—battery plates—Hart Accumulator Co., Ltd., Stratford, E.15. Admiralty Research Laboratory, Fire Control Building — new boiler and addition and alteration to mains—H. Darvill, 62, First-ave., Enfield. Bishopton Royal Ordnance Factory—silica ware coils—Thermal Syndicate, Ltd., 12-14, Old Pye-st., Westminster, S.W.1. Irvine Royal Ordnance Factory—water treatment plant—Permutit Co., Ltd., Permutit House, Gunnersbury-av., W.4. British museum—internal painting—J. Scott Fenn, Ltd., 42, Calderwood-st., Woolwich, S.E.18. Moss Side State Institution, Maghull—external and internal painting—T. McHugh, 99 and 101, Merton-rd., Bootle. Liverpool, 20, Montagu House—removal and re-erection of gates and piers, etc.—Holloway Bros (London), Ltd., 157, Millbank, S.W.1. Royal Naval College, Greenwich (Queen Mary Block)—installation of hot-water service apparatus—Fairleede Enginering, Ltd., 123, Cannon-st., E.C.4. Pembrey Royal Ordnance Factory—clearing cement pavings from site—Henry Thomas & Co., Ltd., Pottery-rd. Saw Mills, Llanelly. Natural History Museum—external painting—J. Scott Fenn, Ltd., 42, Calderwood-st., Woolwich, S.E.18. Ankle boots—W. J. Edwards & Co., Kingswood, Bristol.

London (War Office).—Contracts placed during the week ended September 8:—Extensions to parade ground, etc., Strensall—W. & J. Glossop, Ltd., York. Four M.T. garages at Bulford—W. F. Chivers & Sons, Ltd., Devizes. Roadways, paths, etc., at Royal Gunpowder Factory—Wm. F. Rees, Ltd., Westminster, S.W.1. 56 men barrack block at Copthorne Barracks, Shrewsbury—E. E. Coleman, Ltd., Sale. Regimental institute, Canterbury—W. W. Martin, Ramsgate. Civilian quarters, Yantlet, Isle of Grain—R. Corben & Son, Ltd., Maidstone. Married officers' quarters, Larkhill—Building & Public Works Construction Co., Ltd., Swindon. Central boiler and steam mains, Guadaloupe Barracks, Bordon—Brightside Foundry & Engineering Co., Ltd., Birmingham. Reconstruction of married soldiers' quarters, Marlborough Lines, Aldershot—H. W. Fish, Godalming. Contracts placed by local military authorities during August:—Biggin Hill—pattern shop and store — William Harbrow, 214, Rotherhithe New-rd., London, S.E.16. Woolwich—Connaught Barracks—Alterations to cookhouse, etc.—W. Harris, Ltd., Fernhill-st., North Woolwich, E.16. Redford and Glencorse—road repairs—H. V. Smith & Co., Ltd., 31, St. Andrew-square, Edinburgh. Chatham—Southhill Barracks—ovens—Baker, Perkins, Ltd., Westwood Works, Peterborough. Aldershot—alterations to married officers' quarters—Universal Housing Co., Ltd., Rickmansworth. Aldershot—compressed-air installation—Broom & Wade, High Wycombe. Aldershot, Buller Barracks—conversion of wheelers' shop into offices—G. Kemp, Stroud & Co., Ltd., Elms-rd., Aldershot. Newcastle—levelling and re-turfing recreation ground—Maxwell M. Hart & Co., Ltd., Chronicle-buildings, Manchester, 4. Chilwell—addition of new wing to building—C. & H. Reedman, Northfield-ave., New Sawley, Long Eaton. Catterick—periodical painting—W. Palmer (Leeds), Ltd., 7, Wykebecke Valley-rd., Leeds, 9. Lydd—vehicle track—A. O. Laird, Ltd., 12, Buckingham-st., London, W.C.2. Dover—periodical services—C. J. Else & Co., Ltd., Bakewell-rd., Matlock. Isle of Wight—caretakers' quarters—J. Ball & Sons, Victoria-rd., Cowes, I.O.W. Bulford—provision of lavatory basins—James & Crookerell, Durrington, Salisbury.

Maidstone.—Administration block at new County Police headquarters, for Kent C.C. W. H. Robinson (F.), County Architect, Springfield:—Building—*W. T. Burrows & Sons, Maidstone; electric lighting and power—*E. C. Sparkes & Co., Beckenham; heating and hot water services—*F. Hayden, Ltd., Tunbridge Wells.

Malden.—Public-house, to be called the "Malden Manor," in Sheephouse-ln., for Hodgson's Kingston Brewery, Ltd., Eden-st., Kingston. Joseph Hill (F.), 124, Sloane-st., S.W.1. Quantities by Henry Riley & Son, 82, Victoria-st., S.W.1:—

F. & H. F. Higgs, Ltd., S.E.24	£11,436
Mullen & Lumsden, W.C.1	11,331
Geo. Parker & Sons, S.E.15	11,075
W. T. Yates, Ltd., Enfield	11,064
Wm. Willett, S.W.1	11,008
Haymills, Ltd., Ealing	11,002
Woodward & Co., E.C.2	10,997
Limpus & Son, Kingston	10,986
Loweth & Sons, Hackney	10,860
Ides, Ltd., Kingston	10,710
*W. H. Gaze & Sons, Ltd., Kingston	10,676

Manchester.—Alterations and additions to showroom and offices, 43, High-st. and Friday-st., for F.C. Lowcock & Co., Ltd., 43, High-st. A. Wych, architect, 1, Market-st., Denton:—*J. W. Strafford, Gorton, Manchester.

Manchester.—Reconstruction of branch bank, Pendleton, for Martins Bank, Ltd., Water-st., Liverpool. Irving & Mosscrop, architects, 6, Stanley-st., Liverpool:—*David Walton & Co., Ltd., Pendleton, Salford, 6.

Manchester.—Erection of Mersey Hotel, Princess-rd. South, for Groves & Whitnall, Ltd., Regent-rd. brewery, Salford, 5. Fred Riley (L.), 4, Cannon-st. Quantities by T. Sumner Smith, F.S.I., Clifton Lodge, Victoria Park:—*Peter Hodkinson, Ltd., Devonshire-st., Ardwick, Manchester.

Manchester.—Erection of "Cleveland Hotel," Crumpsall-la., Bank-rd. and Willow Hill-rd., Crumpsall. J. Holt, Ltd., Derby Brewery, Cheetham. N. Hartley Hacking, architect, 5, Blackfriars-st.:—*J. Cocker, Ltd., Station Saw Mills, Walkden, Manchester.

Matlock.—Public conveniences and shelter, Darley Dale, for U.D.C. J. Turner, S.:—*John W. Wildgoose & Sons, Ltd., Rutland-st., Matlock.

Morpeth.—School, for Northumberland C.C. W. W. Tasker, County Architect, County Hall, Newcastle-on-Tyne:—*R. Carse & Son, Ltd., High-st., Amble.

Newcastle-on-Tyne.—12 flats in St. Albans-cres. and 26 houses in flats in Addercombe-terr. Marshall, Tweedy & Bourn, architects, Grainger House, Blackett-st.:—*J. J. Hedley, Crawhall-rd., Newcastle-on-Tyne.

Newport (Mon.).—Second section of the Civic Centre—the administrative block, for T.C.:—

E. C. Jordan & Sons, Ltd.	£97,999 0 0
Hansard, Ltd.	96,295 0 0
E. Turner & Sons, Ltd.	95,398 0 0
Kent and Sussex Building Co., Ltd.	93,250 0 0
Leightons (Contractors), Ltd.	93,200 0 0
Robert Carlyle & Co., Ltd.	92,755 0 0
Wm. T. Nicholls, Ltd.	91,797 0 0
Gee, Walker & Slater	91,433 0 0
*E. Taylor & Co., Ltd.	89,286 10 1

Heating, hot water and ventilation installations in connection with the police headquarters—
*R. Alger & Sons, Newport, in conjunction with *J. Jeffreys & Co., Ltd.

Demolition of certain properties on civic centre site—
*South Wales Demolition Contractors, Cardiff £100

(A) 216 houses and 4 shops, (B) 192 houses and 2 shops, and (C) 66 flats and 6 shops, Wymering housing site—

	(A)	(B)	(C)
Butler Bros. (Birmingham), Ltd., Birmingham	£121,880 0 0	£108,060 0 0	
Eames & Calverley, Ringmer	99,561 12 0	89,473 14 0	£27,250 0 0
M. J. Gleeson, Ltd., North Cheam	97,179 0 0	88,145 0 0	28,271 0 0
J. W. Jones (Weybridge), Ltd., Weybridge	98,297 0 0	89,525 0 0	33,999 0 0
Leightons (Contractors), Ltd., Potters Bar	97,305 0 0	82,880 0 0	32,500 0 0
Sir Lindsay Parkinson & Co., Ltd., London	96,870 0 0	87,600 0 0	31,800 0 0
Patching & Co., Worthing			30,181 0 0
H. E. Pitt, Ltd., Millfield, Sunderland	*85,720 0 0	*77,122 0 0	28,076 0 0
Portsmouth, Gosport & District Builders' Guild, Ltd., Portsmouth	94,471 2 0	84,845 9 3	28,863 0 0
Unit Construction Co., Ltd., London	86,374 0 0	78,346 0 0	26,442 0 0
Wilmonds, Ashtead	85,946 0 0		
A. P. C. Wray, Ltd., Church-rd., Hertford	93,460 0 0	85,698 0 0	*25,024 0 0

MAKES your job easier!
LESS time needed
COSTS 25% less
and does work better and quicker
Cleans or prepares Paint, or, concentrated, strips Varnish Paper.
1lb. fit pocket Cartons 4½d., 1 doz. at 4½d., 3 doz. at 4d.
TEST FOR YOURSELF
ASK FOR FREE SAMPLE
MANGER'S

SUGAR SOAP
FREE SAMPLE
(U.K. only)
Just write **MERCHANT'S NAME** *on your trade headin, and "Sample Please," and post under ½d. cover to J. MANGER & Son, Ltd Dept. B.10. Kingsland London, E.8.*

North Cotswold.—7 houses at Longborough and 8 at Todenham, for R.D.C. J. E. Busfield, architect and surveyor:—

Longborough—	
A. Bowd, Cheltenham	£3,236 5
C. Locke & Sons, Bidford-on-Avon	2,966 18
T. O. Farnworth, Stow-on-the-Wold	2,961 0
*Chas. Steward & Son, Ltd., Broadway	2,647 0
Todenham—	
A. Bowd	£3,896 16
T. O. Farnworth	3,184 0
C. Locke & Sons	3,096 8
*Chas. Steward & Son, Ltd.	2,940 0

Oakham.—Alteration, heating, lighting and painting of premises in Catmose-st., for U.D.C. H. Tabberer, architect and surveyor, 9, Burley-rd.:—

T. A. Dorman, Uppingham	£800 0 0
H. W. Kelham, Bourne	798 10 0
Munton & Son, Oakham	710 0 0
Draycott & Stimson, Oakham	707 10 0
W. Higgs & Sons, Oakham	699 7 6
J. S. Clark, Langham, Oakham	640 0 0
*J. Simpson, Braunston, Oakham	631 15 0

(Subject to M.H. sanction.)

Portsmouth.—Works, for T.C. Adrien J. Sharp (L.), City Architect. Quantities by City Architect:—

Mortuary block at infectious diseases hospital—

Davis (Contractors), Ltd.	£1,995
H. E. Pitt, Ltd., Sunderland	1,933
Lees of Enfield, Ltd., Enfield	1,885
G. J. Davis & Son, Southsea	1,813
L. Hoad, Southsea	1,797
Howe & Bishop, Ltd., Portsmouth	1,783
F. J. Privett, Ltd., Southsea	1,770
*S. Salter (Portsmouth), Ltd., Yorke-st., Southsea	1,754

External painting, children's cottage homes, St. Mary's institution—

City Engineer, Portsmouth	£252
A. L. Gould, Portsmouth	237
Barnes & Elliott, Southsea	223
T. L. Norman & Son, Ltd., Southsea	159
H. J. Phillips, Southsea	143
*F. J. Churcher & Son, 40, King's-rd., Southsea	136

Portsmouth.—Café, dance hall, conveniences, waterways, etc., on Lumps Fort site, for T.C. Adrien J. Sharpe (L.), City Architect:—*Kirk & Kirk, Ltd., Atlas-works, Putney, £98,938.

Poynton.—School for Cheshire E.C. F. Anstead Browne (F.) County Architect, The Castle, Chester:—Builders—*J. Clayton & Sons; concrete paving—*John Dickinson & Co. (Bolton), Ltd., Bolton; plumbing and glazing—*J. Turton & Co., Ltd.; plastering—*F. & J. Pilling Bros., Ltd.; wood block flooring—*Earl Castle Flooring Co., Ltd.; slating—*Manchester Slate Co., Ltd.; asphalting—*Ragusa Asphalte Paving Co., Ltd.; stonework—*F. M. & H. Nuttall, Ltd., Whitefield; ironfounders—*Herbert Parkes & Nephew, Ltd., Stockport. Amount of tender £15,769. (Rest of Manchester.)

Rochester.—125 houses, etc., Garden City estate. Raymond J. Sargent (L.), 6, Queen-st., London, W.1:—*Walker (Tooting), Ltd., 39, Defoe-rd., S.W.

Roscommon.—8 houses, Strikestown, for County Board of Health:—*J. Killian, Strikestown, £2,400.

Rotherham.—Extensions to office buildings for Rother Boiler Co., Ltd., boilermakers, etc., Meadow Bank-works. Edward Hutchinson & Son, architects, Howard-st.:—*W. Blair, Davis-st., Rotherham.

St. Helens.—Extensions of Sutton Manor Council school, for E.C. Biram & Fletcher (FF.), 17, George-st.:—*Joseph Yearsley & Sons, Ltd., Fenton-st., St. Helens, £19,936.

Sale.—Council school, Park-rd., Ashton-on-Mersey, Sale, for Cheshire E.C. F. Anstead Browne (F.), County Architect, The Castle, Chester:—Builders—*E. Taylor & Co., Ltd., Littleborough. Roof tiling—*F. Brown & Sons, Ltd., Walkden. Plumbing and glazing—*J. Turton & Sons, Ltd. Mason—*H. A. Clegg & Sons, Chester. Reconstructed stone—*The Stanncliffe Estates Co., Ltd., Darley Dale. Steelwork—*T. Walmsley & Sons, Ltd., Bolton. Asphalting—*J. Dickinson & Co. (Bolton), Ltd., Bolton. Cast concrete—*Liverpool Artificial Stone Co., Ltd., Liverpool. Wall and floor tiling—*A. Francis. Bituminous roofing—*W.E.F. Co., Ltd. Plastering and Granolithic—*J. Blower, Stockport. Bituminous macadam—*Bituminous Surfacings, Ltd. Wood-block flooring—*Super Floors, Ltd. Painting—*Jones & Jackson, Ltd. Amount of tenders, £20,499. (Rest of Manchester.)

Sheffield.—Conversion of buildings at "Redhill" into factory and offices and new caretaker's premises, for Cooke & Stevenson, Ltd., Columba

Works, Solly-st. S. Elden Minns (L.), Wharncliffe House, Bank-st. :—*D. O'Neill & Son, Solly-st., Shemeld.

Skelmanthorpe.—Cow byre, etc., at High Field Farm, for Industrial and Co-operative Provident Society, Ltd. P. N. Brown (L.), Hollowgate, Holmfirth :—Mason—*A. Turton, Skelmanthorpe; joiners —*J. Holmes & Sons, Denby Dale; slaters—*Pickles Bros., Huddersfield; plumbers and electricians— *J. Kenyon & Son, Holmfirth; painters—*J. Quarmby & Son, Holmfirth.

South Cork.—Extension of Bandon Cottage Hospital, for Board of Public Assistance :—*T. Buckley Bandon, £2,730.

South Tipperary.—32 houses at Fethard, for Board of Health :—*F. Dwan, Thurles, £312 6s. per house.

Southampton.—Aircraft manufacturing factory, administrative block, canteens, drawing offices, recreation hall, etc., Airport, Swaythling, for Cuniffe-Owen Aircraft, Ltd. W. H. Saunders & Son, architects, 164, High-st. :—*Sir Robert McAlpine & Sons, Ltd., 50, Pall Mall, S.W.1. (Cost, £150,000.)

Stalybridge.—Reconstruction of "Wharf Tavern" p.h., Caroline-st., for Gartsides Brookside Brewery, Ltd., Ashton-under-Lyne. T. Buckley, Resident Architect, Brewery Offices :—*W. Storrs, Sons & Co., Ltd., Aqueduct Saw Mills, Stalybridge.

Stockport.—Hotel, Heaton Moor-rd., Heaton Moor, for Walker & Homfray, Ltd., Woodside Brewery, Eccles New-rd., Salford. George Westcott & Son, architects, 31, Byron-st., Deansgate :— Builders—*E. B. Jones & Rawlinson, Pendleton; pavement lights—*A. Lees, Ltd.; steelwork— *Heenan, Beddow & Sturmey, Ltd.; plumbing— *A. Longworth & Sons, Ltd.; electricians— *McClure & Whitfield, Stockport; asphalting— *Limmer & Trinidad Lake Asphalte Co., Ltd.; slating—*F. Brown Sons, Ltd.; stonemason—*F. & J. Halliwell; plastering—*A. & S. Wallace. (Rest of Manchester.)

Stockton-on-Tees.—Office extensions, Bowesfield-la., for Tarslag (1923), Ltd. A. Harrison, architect, 69, High-st. :—*Direct Labour.

Stretford.—Works, for T.C. :—Steel racking for storage of respirators—*Constructors, Ltd., Birmingham, £154 3s. 7d. Exterior painting of houses —*A. Orme, Stretford, 36 houses, Gorse Park, £99; *W. Whiteside, Urmston, 50, Gorse Park, £125, and 33, Gorse Park, £82 10s.; *G. E. Hollins, Trafford Park, 20, Gorse Park, £58, and 2, 16/18, Park-rd., £19 10s.; *A. Reeves, Salford, 52, Gorse Park, £130, and shops and houses, King-st., £52; *J. Derbyshire, Old Trafford, 49, Gorse Park, £135, and 6, 608/618, Stretford-rd., £58.

Sunderland.—Workshop in Strand-st., for Bernstein Bros. :—*A. Snowdon & Sons, Nobles Bank-rd., Sunderland.

Sunderland. — Rebuilding of White's Market (about £16,000). G. E. Matkin, architect, Barclay's Bank-chambs. :—*J. Huntley & Sons, Marion-st., Sunderland.

Sunderland.—Bakery, for Pryde & Co. G. E. Matkin, architect, Barclay's Bank-chambs. :—*J. & T. Parker, St. Oswald's House, Sunderland.

Surrey.—Three farmhouses and sets of farm buildings at West Park estate, Burstow and Horne, for C.C. :—*Bishop & Clarke, Horley, £5,275.

Tyldesley.—New branch Co-operative Stores at Astley, for Tyldesley and District Industrial Co-operative Society, Ltd., Elliott-st. Architects' Department, Co-operative Wholesale Society, Ltd., Balloon-st., Manchester :—*R. & W. Gregson, Milk-st., Tyldesley, Manchester.

Wallingford.—14 dwellings, etc., Cooper's-pl., for T.C. F. G. Sainsbury (L.), 154, Friar-st., Reading :—*Boshers (Cholsey), Ltd., Cholsey, £6,767.

Wardley Colliery.—Miners' hall and institute, for Follonsby Miners' Lodge. W. Stockdale, architect, 73, Howard-st., North Shields :—*T. G. Price, Springwell, Co. Durham.

Wareham.—Licensed premises, to replace the "Castle Inn," Bournemouth-rd., for E. A. White. James Allner (F.), 26, Parkstone-rd., Poole :— *W. G. Crane, 1, Victoria-rd., Poole.

Waterford.—Works for County Board of Health :— Public lavatories at Passage East, *W. Power, £459; 4 houses at Stradbally and Bonmahon. *T. Mullingan, Kill, £1,208.

West Hartlepool.—Public assistance offices in Avenue-rd., for T.C. Francis Durkin, Assoc.M.Inst. C.E., B.E. :—*John Proud, Ltd., York-rd., West Hartlepool.

Whickham. — Shops and business premises. Stephenson & Gillis, architects, Saville-pl., Newcastle :—*Shield Bros., Back Park-terr., Swalwell, Whickham.

Aggregates and Methods of Testing.

Messrs. A. Gallenkamp and Co., Ltd., "Technico House," 17-29, Sun-street, and 1-3, Clifton-street, Finsbury-square, E.C.2, have published "Sands, Gravel and Other Aggregates, Methods of Testing," by Dr. J. Watson, D.Sc., F.I.C. In a preface to the book, which is published at 4s. 6d. net, Dr. Watson points out that the necessity for a concise textbook on methods to be employed for the testing of sand and gravel, and the requirements for same in the various industrial operations has arisen from the fact that without good materials to work with, satisfactory results cannot be expected; consequently, there has been a rapidly increasing appreciation of the value of tested sand and gravel, by constructional engineers in particular.

Chapters of the book deal with sieving and grading, impurities in sand, specific gravity, voids in sand and aggregate, chemical analysis of sands, moulding sands, special sands, and tables of useful information.

Heat Insulation in Industry.

An article in the current issue of the Journal of Scientific Instruments (published by the Institute of Physics) is of particular interest to scientists and industrialists. It is in the form of a review by Dr. Ezer Griffiths of the methods of assessing the value of various insulating materials at present in use at the National Physical Laboratory and supplemented by reference to literature on the subject. In addition to reviewing the types of apparatus employed for tests, the article includes a résumé of the units in which conductivity is expressed, and a discussion on materials ranging from cork to light aerated concrete used for cold storage and the various materials used in building construction and furnace insulation, together with tables containing appropriate technical data.

Copies of the issue containing this article are available from the Institute of Physics, 1, Lowther-gardens, Exhibition-road, S.W.7, price 2s. 8d., post free.

FLOORING
WOOD BLOCK in Deal, Pine Pitchpine, Maple, Jarrah Gurjun, Oak, Teak, etc.
T&G BOARD FLOORS in above woods
STRIP OAK FLOORS
PARQUET FLOORS · PORTABLE FLOORS · SPRING FLOORS
TURPOLITH Composition Floors
TURPINS PARQUET FLOORING CO LTD
25 NOTTING HILL GATE · W11
ESTABLISHED 1866
PHONE: BAYSWATER 0163 (2 lines)

PARQUETRY
WOOD BLOCK FLOORS
JEFFERISS (CAMBERWELL) LTD.
45, Grove Lane, S.E.5. Phone: RODNEY 3387-8
BRITISH WORKMEN ONLY.

If you are in need of WELSH ROOFING
or
WELSH DAMP COURSE SLATES
Send your enquiries to:
E. PARKINSON (London), Ltd.,
189, High Road, South Tottenham, N.15.
Telephone: Stamford Hill 3211.
OVER 500,000 SLATES (comprising 28 different sizes) AVAILABLE FOR IMMEDIATE DELIVERY FROM LONDON STOCK.

Boyle's PATENT "AIR-PUMP" VENTILATOR.
OVER TWO MILLION IN USE.
ROBERT BOYLE & SON,
Ventilating Engineers,
65, HOLBORN VIADUCT, LONDON, E.C.1.
Tel. Central 4583.

BUY BRITISH
FLOORINGS
WOOD BLOCK PARQUET
SOLID T&G HARDWOOD
PANELLING
POINT PLEASANT LONDON S·W·18
Stevens & Adams Ltd.
PHONE PUTNEY 4701·2·3·4

WROT METALWORK
GATES·GRILLES·CANOPIES
LIFT ENCLOSURES·BRACKETS
BALUSTRADES·DOORS
& ARCHITECTURAL METALWORK
of all kinds.
ARTHUR B MAXTED Ltd
69 HARDWIDGE ST. BERMONDSEY S.E.1
HOP 0054

A Policy of Insurance
OUR POLICY—
Best Materials and Best Workmanship
WATERLOO 5474
W. & M. NEGUS LTD
Station Works · King James St · S.E.1